

=&gt; d que stat l1

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2007-599651/APPS

=&gt; d ibib ed abs ind l1

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1130679 HCAPLUS Full-text

DOCUMENT NUMBER: 143:406961

TITLE: Modified conjugated diene polymers having low heat buildup property, polymerization initiators therefor, their manufacture and rubber compositions

INVENTOR(S): Suzuki, Eiju; Ozawa, Yoichi

PATENT ASSIGNEE(S): Bridgestone Corporation, Japan

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005097845	A1	20051020	WO 2005-JP4810	20050317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1734060	A1	20061220	EP 2005-720997	20050317
R: DE, FR, IT				
CN 1961011	A	20070509	CN 2005-80017367	20050317
BR 2005009641	A	20070918	BR 2005-9641	20050317
US 20080033110	A1	20080207	US 2007-599651	20070713 <--
PRIORITY APPLN. INFO.:			JP 2004-111231	A 20040405
			WO 2005-JP4810	W 20050317

OTHER SOURCE(S): MARPAT 143:406961

ED Entered STN: 21 Oct 2005

AB Title conjugated diene (CD) homopolymers or the CD-aromatic vinyl compound (AV) copolymers are characterized as R1Y1NQNR2(Poly)Z1 [R1, R2 = C1-20 alkyl, aryl, (substituted) silyl, or H; Q = active H-free and heterocyclic atom-containing C1-12 alkylene or arylene; Y1 = (substituted) silyl or H with part of R2, Q, and Y capable to form ring; Poly = the CD homopolymer or CD-AV copolymer component; Z1 = alkali or alkaline earth metal or residue from reaction with reactive carbanion compound or H]. Polymerizing butadiene and styrene in cyclohexane solution in the presence of an initiator from dimethyl-1,6-hexanediamine, BuLi, and Me3SiCl at 50° for 2.5 h and adding BHT gave a polymer showing number-average mol. weight 1.74 + 105, polydispersity 1.20, and 100° Mooney viscosity 22, 80 parts of which was kneaded with natural

rubber 20, carbon black 50, and S 1.5 parts and vulcanized at 160° for 15 min to form a vulcanizate with  $\tan\delta$  index 69 under 15 Hz, 50° and 3% strain; vs., 87, for a vulcanizate prepared similarly from a SBR prepared in presence of hexamethylene diamine, ditetrahydrofurylpropane, and BuLi.

- IC ICM C08F036-04  
ICS C08F004-06; C08F008-00; C08L015-00
- CC 39-4 (Synthetic Elastomers and Natural Rubber)
- ST org alkali metal diamine silane reaction product polymn initiator; alk earth compd diamine silane reaction product polymn initiator; conjugated diene polymn initiator silyldiamine reaction product butyl lithium; low heat buildup conjugated diene rubber polymn initiator
- IT Organometallic compounds  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkali metal compds., polymerization initiator from; manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Amines, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(diamines, polymerization initiator from; manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Polymerization catalysts  
(manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Styrene-butadiene rubber, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Amides, uses  
Heterocyclic compounds  
Isocyanates  
RL: MOA (Modifier or additive use); USES (Uses)  
(modifier; manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Alkali metal compounds  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organometallic compds., polymerization initiator from; manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Alkaline earth compounds  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organometallic, polymerization initiator from; manufacture of conjugated diene polymers in presence of diamine/silane/organic alkali or alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Silanes  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymerization initiator from; manufacture of conjugated diene polymers in

presence of diamine/silane/organic alkali or alkaline metal reaction products

for vulcanizates with low heat buildup)

IT 68-12-2, DMF, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 90-93-7,  
4,4'-Bis(diethylamino)benzophenone 90-94-8,  
4,4'-Bis(dimethylamino)benzophenone 100-10-7, 4-Dimethylaminobenzaldehyde  
100-43-6, 4-Vinylpyridine 100-69-6, 2-Vinylpyridine 101-68-8  
103-71-9, Phenylisocyanate, uses 103-72-0, Phenylthioisocyanate  
105-60-2,  $\epsilon$ -Caprolactam, uses 120-21-8,  
4-Diethylaminobenzaldehyde 127-19-5, Dimethylacetamide 530-44-9,  
4-Dimethylaminobenzophenone 538-75-0 617-84-5, N,N-Diethylformamide  
685-91-6 872-50-4, N-Methylpyrrolidone, uses 889-37-2,  
4-Dimethylaminobenzylideneaniline 1453-82-3, 4-Amidopyridine  
2556-73-2, N-Methyl- $\epsilon$ -caprolactam 4637-24-5,  
1,1-Dimethoxytrimethylamine 6961-56-4,  
1,1-Bis(4-diethylaminophenyl)ethylene 7478-69-5,  
1,1-Bis(4-dimethylaminophenyl)ethylene 18127-87-2,  
4-Diethylaminobenzophenone 34064-35-2

RL: MOA (Modifier or additive use); USES (Uses)

(modifier; manufacture of conjugated diene polymers in presence of  
diamine/silane/organic alkali or alkaline metal reaction products for  
vulcanizates with low heat buildup)

IT 7646-78-8, Tin tetrachloride, uses

RL: MOA (Modifier or additive use); USES (Uses)

(modifying agent; manufacture of conjugated diene polymers in presence of  
diamine/silane/organic alkali or alkaline metal reaction products for  
vulcanizates with low heat buildup)

IT 75-77-4, Trimethylsilyl chloride, reactions 109-72-8, Butyllithium,  
reactions 13093-04-4, N,N'-Dimethyl-1,6-diaminohexane

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymerization initiator from; manufacture of conjugated diene polymers in  
presence of diamine/silane/organic alkali or alkaline metal reaction

products

for vulcanizates with low heat buildup)

IT 9003-55-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)

(styrene-butadiene rubber; manufacture of conjugated diene polymers in  
presence of diamine/silane/organic alkali or alkaline metal reaction

products

for vulcanizates with low heat buildup)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d que 12

L2 1 SEA FILE=WPIX ABB=ON PLU=ON US2007-599651/APPS

=> d iall code 12

YOU HAVE REQUESTED DATA FROM FILE 'WPIX' - CONTINUE? (Y)/N:y

L2 ANSWER 1 OF 1 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN

ACCESSION NUMBER: 2005-810555 [82] WPIX

DOC. NO. CPI: C2005-249169 [82]

TITLE: Modified conjugated diene polymer for rubber composition,

10/599,651

is homopolymer of conjugated diene compound or copolymer of conjugated diene compound and aromatic vinyl compound, and has specific residue derived from diamine compound

DERWENT CLASS: A12  
INVENTOR: OZAWA Y; SUZUKI E; OZAWA Y B C; SUZUKI E B C  
PATENT ASSIGNEE: (BRID-C) BRIDGESTONE CORP; (OZAW-I) OZAWA Y; (SUZU-I) SUZUKI E  
COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2005097845	A1	20051020	(200582)*	JA	44	[0]
EP 1734060	A1	20061220	(200702)	EN		
JP 2006511959	X	20080228	(200717)	JA	33	
CN 1961011	A	20070509	(200760)	ZH		
BR 2005009641	A	20070918	(200763)	PT		
US 20080033110	A1	20080207	(200812)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005097845	A1	WO 2005-JP4810	20050317
BR 2005009641	A	BR 2005-9641	20050317
CN 1961011	A	CN 2005-80017367	20050317
EP 1734060	A1	EP 2005-720997	20050317
EP 1734060	A1	WO 2005-JP4810	20050317
BR 2005009641	A	WO 2005-JP4810	20050317
US 20080033110	A1	WO 2005-JP4810	20050317
US 20080033110	A1	<u>US 2007-599651</u>	<u>20070713</u>
JP 2006511959	X	WO 2005-JP4810	20050317
JP 2006511959	X	JP 2006-511959	20050317

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1734060	A1	Based on WO 2005097845 A
BR 2005009641	A	Based on WO 2005097845 A
JP 2006511959	X	Based on WO 2005097845 A

PRIORITY APPLN. INFO: JP 2004-111231 20040405

INT. PATENT CLASSIF.:

IPC ORIGINAL: C08F0036-00 [I,C]; C08F0036-00 [I,C]; C08F0036-00 [I,C];  
C08F0036-04 [I,A]; C08F0036-04 [I,A]; C08F0004-00 [I,C];  
C08F0004-00 [I,C]; C08F0004-06 [I,A]; C08F0004-06 [I,A];  
C08F0008-00 [I,A]; C08F0008-00 [I,C]; C08F0008-00 [I,A];  
C08F0008-00 [I,C]; C08K0003-00 [I,C]; C08K0003-04 [I,A];  
C08K0003-36 [I,A]; C08L0015-00 [I,A]; C08L0015-00 [I,C];  
C08L0015-00 [I,A]; C08L0015-00 [I,C]; C08L0009-00 [I,A];  
C08L0009-00 [I,C]

IPC RECLASSIF.: C08C0019-00 [I,C]; C08C0019-44 [I,A]; C08F0036-00 [I,C];  
C08F0036-04 [I,A]; C08F0004-00 [I,C]; C08F0004-06 [I,A];  
C08F0004-08 [I,A]; C08F0004-10 [I,A]; C08F0008-00 [I,A];  
C08F0008-00 [I,C]; C08L0015-00 [I,A]; C08L0015-00 [I,C]

ECLA: C08C0019-44; C08F0004-08D; C08F0004-10;  
C08F0036-04+4/08D; C08F0036-04+4/10; C08L0015-00

USCLASS NCLM: 525/185.000

10/599,651

NCLS: 525/331.900; 526/183.000; 526/279.000; 526/346.000;  
526/348.600

BASIC ABSTRACT:

WO 2005097845 A1 UPAB: 20060125

NOVELTY - A modified conjugated diene polymer is homopolymer of conjugated diene compound or copolymer of conjugated diene compound and aromatic vinyl compound. The modified conjugated diene polymer has a residue (I) derived from diamine compound at the polymerization initiation end.

DETAILED DESCRIPTION - A modified conjugated diene polymer is homopolymer of conjugated diene compound or copolymer of conjugated diene compound and aromatic vinyl compound. The modified conjugated diene polymer has a residue (I) derived from diamine compound at the polymerization initiation end.

R1,R2=1-20C alkyl or aryl, substituted silyl, or H;

R3=1-12C alkylene or arylene, and optionally includes hetero atom;

Y1=substituted silyl or H, where R1-R3 and Y1 are optionally coupled together to form cyclic structure;

Poly=copolymer portion of aromatic vinyl compound and conjugated diene compound, or homopolymer portion of conjugated diene compound;and

Z1=alkali metal, alkaline-earth metal, H or residue formed by reacting alkali metal and alkaline-earth metal with carbanion reactive compound.

INDEPENDENT CLAIMS are included for the following: (i) polymerization initiator of formula (V); (ii) polymerization initiator solution; (iii) manufacture of polymerization initiator; (iv) manufacture of modified conjugated-diene group polymer; and (v) rubber composition containing modified conjugated diene as rubber component.

R1-R3=same as defined above;

Y2=substituted alkyl, where R1-R3 and Y2 optionally couples together to form cyclic structure;and

M1=alkali metal or alkaline-earth metal.

USE - For rubber composition used for belt and tread of tire for motor vehicle.

ADVANTAGE - The modified conjugated diene polymer has excellent interaction with filler and provides rubber composition having low heat generation property.

MANUAL CODE: CPI: A02-A07B; A04-B01A; A12-H01; A12-T01

AN 2005-810555 [82] WPIX

DC A12

IPCI C08F0036-00 [I,C]; C08F0036-00 [I,C]; C08F0036-00 [I,C]; C08F0036-04 [I,A]; C08F0036-04 [I,A]; C08F0004-00 [I,C]; C08F0004-00 [I,C]; C08F0004-06 [I,A]; C08F0004-06 [I,A]; C08F0008-00 [I,A]; C08F0008-00 [I,C]; C08F0008-00 [I,A]; C08F0008-00 [I,C]; C08K0003-00 [I,C]; C08K0003-04 [I,A]; C08K0003-36 [I,A]; C08L0015-00 [I,A]; C08L0015-00 [I,C]; C08L0015-00 [I,A]; C08L0015-00 [I,C]; C08L0009-00 [I,A]; C08L0009-00 [I,C]

IPCR C08C0019-00 [I,C]; C08C0019-44 [I,A]; C08F0036-00 [I,C]; C08F0036-04 [I,A]; C08F0004-00 [I,C]; C08F0004-06 [I,A]; C08F0004-08 [I,A]; C08F0004-10 [I,A]; C08F0008-00 [I,A]; C08F0008-00 [I,C]; C08L0015-00 [I,A]; C08L0015-00 [I,C]

EPC C08C0019-44; C08F0004-08D; C08F0004-10; C08F0036-04+4/08D; C08F0036-04+4/10; C08L0015-00

NCL NCLM 525/185.000

NCLS 525/331.900; 526/183.000; 526/279.000; 526/346.000; 526/348.600

IT UPIT 20060125

107016-DIS; 129411-DIS; 2211-DIS; 23-DIS; 368-DIS; 483-DIS

MC CPI: A02-A07B; A04-B01A; A12-H01; A12-T01

PLE UPA 20060125

[1.1] 2004 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D85 DCN: R00429  
DCR: 483; G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58  
D76 D88 DCN: R00708 DCR: 368; H0022 H0011; L9999 L2528 L2506;

# 10/599,651

- H0124-R; S9999 S1434; K9449; M9999 M2039; M9999 M2777; L9999 L2777; L9999 L2391; L9999 L2039; H0180; P0328; P1741; P0395; P0408;
- [1.2] 2004 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84 DCN: R00806 DCR: 129411; G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D76 D88 DCN: R00708 DCR: 368; H0022 H0011; L9999 L2528 L2506; H0124-R; S9999 S1434; K9449; M9999 M2039; M9999 M2777; L9999 L2777; L9999 L2391; L9999 L2039; H0180; P0328; P1741; P0351; P0362;
- [1.3] 2004 G0102-R G0022 D01 D12 D10 D18 D51 D53; G0828-R G0817 D01 D12 D10 D51 D54 D56; H0022 H0011; L9999 L2528 L2506; H0124-R; S9999 S1434; K9449; M9999 M2039; M9999 M2777; L9999 L2777; L9999 L2391; L9999 L2039; H0180; P0328; P1741;
- [1.4] 2004 G0828-R G0817 D01 D12 D10 D51 D54 D56; H0000; L9999 L2573 L2506; H0124-R; S9999 S1434; K9449; M9999 M2039; M9999 M2777; L9999 L2777; L9999 L2391; L9999 L2039; H0180; P0328;
- [1.5] 2004 K9449; ND02; ND03; ND04; ND06; Q9999 Q9256-R Q9212; Q9999 Q9234 Q9212; B9999 B3612 B3554; Q9999 Q7909 Q7885; B9999 B3418-R B3372; B9999 B5505-R;
- [1.6] 2004 Si 4A; H0157;
- [1.7] 2004 D01 D11 D10 D18-R Si 4A F09 F07 D81 D82 D83 D84 D85 D86 D87 D88 D89 D90 D91 D92 D93 D94 D28 D95 D29 D30; D01 D11 D10 D18-R Si 4A F07-R D22-R; D01 D10-R D18-R F87 F86 D23 D22 D43 D42 D73 F00 F47 F73-R F66 F23 F22 F15 F70-R F19 O- 6A F05 F41-R F35-R D65 D61-R F39 F40 F07-R D22-R D41 F12 N- 5A F01 F02 F16 1A-R Si 4A; D01 D11 D10 D13-R D18-R Si 4A Sn D68 D70 C1 7A I- D83 D84 D85 D86 D87 D88 D89 D90 D91 D92 D93 D94 D28 D95 D29 D30; D01 D11 D10 D50 D83 F70 DCN: R00278 DCR: 23; D01 D11 D10 D19 D18 D76 D50 F23 D32 D93 F08 F07; C999 C102 C000; C999 C293; C999 C157;
- [1.8] 2004 D01 D11 D10 D18-R Si 4A F09 F07 D22-R 2A-R 1A-R N- 5A; C999 C293; C999 C102 C000; C999 C248;
- [1.9] 2004 D00; D00 D09 C- 4A DCN: R05085 DCR: 2211; D00 F20 O- 6A Si 4A DCN: R01694 DCR: 107016; A999 A237; A999 A771;

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 L4 31 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
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YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y

L23 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2008 ACS on STN  
 RN ~~9003-55-8~~ REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 1,3-Butadiene, polymer with ethenylbenzene (9CI)  
 CN 1,3-Butadiene, polymer with styrene (8CI)  
 OTHER NAMES:  
 CN 1,3-Butadiene-styrene copolymer  
 CN 1,3-Butadiene-styrene polymer  
 CN 620A  
 CN 638A  
 CN 76RES4100  
 CN 76RES4402  
 CN 76RES4470  
 CN ABR 60  
 CN Afcolac B 101  
 CN Arlatex 43DA  
 CN Arolon 870W51  
 CN Asaflex 1015  
 CN Asaflex 845  
 CN Asaflex T 420  
 CN Asahi Dow 2301  
 CN B 1342  
 CN BASF 661  
 CN BS 65GPN  
 CN Bustilat  
 CN Bustren 793  
 CN Butadiene-styrene copolymer  
 CN Butadiene-styrene polymer  
 CN Butadiene-styrene resin  
 CN Butakon 85-71  
 CN Butakon SL 104  
 CN Butofan DS 2095  
 CN Butofan LS 103  
 CN Butonal NS 129  
 CN C 26-II  
 CN C-Oil  
 CN CP 620A  
 CN CP 638  
 CN CP 692NA  
 CN D 1-240  
 CN Dan Bond  
 CN Darex 620L  
 CN Darex 637

CN Denkacoat  
 CN Diabond 150A  
 CN Diarex 600  
 CN Dienol S  
 CN DL 219  
 CN DL 219 (binder)  
 CN DL 233A  
 CN DL 233NA  
 CN DL 239  
 CN DL 240  
 CN DL 242NA

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
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DR 876407-67-9, 876407-98-6, 57829-19-3, 56422-11-8, 123584-62-3,  
 123997-48-8, 60327-98-2, 103018-34-4, 51568-96-8, 51568-97-9, 148388-44-7,  
 151030-85-2, 80236-62-0, 80236-63-1, 80236-64-2, 80236-65-3, 155123-82-3,  
 85947-40-6, 81406-92-0, 82028-80-6, 89771-18-6, 87915-64-8, 91261-65-3,  
 39470-75-2, 53124-27-9, 110563-51-4, 160338-90-9, 198352-23-7,  
 252031-61-1, 325787-03-9, 515844-57-2

MF (C8 H8 . C4 H6)x

CI PMS, COM

PCT Polyolefin, Polystyrene

SR CA

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, CA, CAPLUS, CBNB,  
 CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, IFICDB, IFIPAT, IFIUDB, MSDS-OHS,  
 PIRA, PROMT, RTECS\*, TOXCENTER, TULSA, USPAT2, USPATFULL, USPATOLD  
 (\*File contains numerically searchable property data)

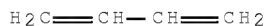
Other Sources: DSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

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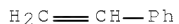
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CM 2

CRN 100-42-5

CMF C8 H8



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

48597 REFERENCES IN FILE CA (1907 TO DATE)

2517 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

48629 REFERENCES IN FILE CAPLUS (1907 TO DATE)



10/599,651

=> => d que stat 19  
L7 STR

Si ~~X~~ N  
1 2 N 3

NODE ATTRIBUTES:

NSPEC IS RC AT 1  
NSPEC IS RC AT 2  
NSPEC IS RC AT 3  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L9 44315 SEA FILE=REGISTRY SSS FUL L7

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SEARCH TIME: 00.00.01

=> d que 123

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L3 TRANSFER PLU=ON L1 1- RN : 31 TERMS  
L4 31 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
L23 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND PMS/CI

=> d que nos 147

L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US2007-599651/APPS  
L3 TRANSFER PLU=ON L1 1- RN : 31 TERMS  
L4 31 SEA FILE=REGISTRY ABB=ON PLU=ON L3  
L7 STR  
L9 44315 SEA FILE=REGISTRY SSS FUL L7  
L10 QUE ABB=ON PLU=ON SUZUKI, E?/AU  
L11 QUE ABB=ON PLU=ON OZAWA, Y?/AU  
L12 QUE ABB=ON PLU=ON (BRIDGESTONE OR (BRIDGE(1W)STONE))/  
CS, SO, PA  
L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L16 QUE ABB=ON PLU=ON "POLYMERIZATION CATALYSTS"+PFT, OLD, N  
EW, NT/CT  
L17 19109 SEA FILE=HCAPLUS ABB=ON PLU=ON L9  
L18 974 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 AND L16  
L19 630 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 (L) (L13 (L) (L14 OR L15))  
L21 QUE ABB=ON PLU=ON ?DIENE? ?DIENYL OR ?BUTADIEN?  
L22 QUE ABB=ON PLU=ON ?STYREN?  
L23 1 SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND PMS/CI  
L24 48629 SEA FILE=HCAPLUS ABB=ON PLU=ON L23  
L25 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND (L18 OR L19)  
L26 27 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L17

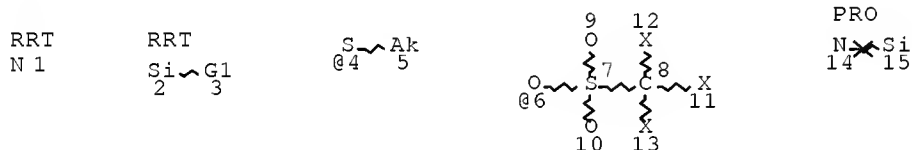
10/599,651

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L27      27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L25 OR L26)
L28      26 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L27 AND ((L13 OR L14 OR L15
        OR L16) OR (L21 OR L22))
L29      27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L27 OR L28)
L30      3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 AND (L10 OR L11 OR L12)
L31      0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND L30
L32      4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L30 OR L31) OR L1
L33      24 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 NOT L32
L37      QUE ABB=ON  PLU=ON  ?SILAN? OR ?SILYL?
L38      QUE ABB=ON  PLU=ON  DIAMIN? OR (DI(1W) (AMINE OR AMINO))
L39      QUE ABB=ON  PLU=ON  AMINES+PFT,OLD,NEW/CT (L) L38
L40      71 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 (L) L37
L41      5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L40 AND (L16 OR (L13 (5A) (L14
        OR L15)))
L42      1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L41 AND (L10 OR L11 OR L12)
L43      1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L42 AND L1
L44      4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 OR L32
L45      4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L41 NOT L44
L46      28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L45 OR L33
L47      28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L46 NOT L44

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=> d que stat 152  
L48 STR



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VAR G1=X/4/CN/6
NODE ATTRIBUTES:
NSPEC   IS RC      AT   1
NSPEC   IS RC      AT  14
NSPEC   IS RC      AT  15
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

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STEREO ATTRIBUTES: NONE
L50      SCR 1967 OR 1936
L52      1306 SEA FILE=CASREACT SSS FUL (L50 AND L48) ( 10185 REACTIONS)

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100.0% DONE 12341 VERIFIED 10185 HIT RXNS 1306 DOCS
SEARCH TIME: 00.00.03

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=> d que nos 156
L10      QUE ABB=ON  PLU=ON  SUZUKI, E?/AU
L11      QUE ABB=ON  PLU=ON  OZAWA, Y?/AU
L12      QUE ABB=ON  PLU=ON  (BRIDGESTONE OR (BRIDGE(1W)STONE))/
        CS, SO, PA
L13      QUE ABB=ON  PLU=ON  ?POLYMERI? OR COPOLYMER?

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10/599,651

L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W)(AMINE OR AMINO))  
L48 STR  
L50 SCR 1967 OR 1936  
L52 1306 SEA FILE=CASREACT SSS FUL (L50 AND L48) ( 10185 REACTIONS)  
L53 58 SEA FILE=CASREACT ABB=ON PLU=ON L52 AND L38  
L54 4 SEA FILE=CASREACT ABB=ON PLU=ON L53 AND (L13(5A)(L14 OR L15))  
L55 2 SEA FILE=CASREACT ABB=ON PLU=ON L52 AND (L10 OR L11 OR L12)  
L56 4 SEA FILE=CASREACT ABB=ON PLU=ON L54 NOT L55

=> d que 170

L2 1 SEA FILE=WPIX ABB=ON PLU=ON US2007-599651/APPS  
L10 QUE ABB=ON PLU=ON SUZUKI, E?/AU  
L11 QUE ABB=ON PLU=ON OZAWA, Y?/AU  
L12 QUE ABB=ON PLU=ON (BRIDGESTONE OR (BRIDGE(1W)STONE))/CS, SO, PA  
L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L21 QUE ABB=ON PLU=ON ?DIENE? ?DIENYL OR ?BUTADIEN?  
L22 QUE ABB=ON PLU=ON ?STYREN?  
L37 QUE ABB=ON PLU=ON ?SILAN? OR ?SILYL?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W)(AMINE OR AMINO))  
L57 QUE ABB=ON PLU=ON C08F0036-04/IPC  
L58 QUE ABB=ON PLU=ON C08F0004-08/IPC  
L59 QUE ABB=ON PLU=ON C08F0004-10/IPC  
L61 230 SEA FILE=WPIX ABB=ON PLU=ON (F09/PLE (S) SI/PLE)(P)C293/PLE  
L62 6 SEA FILE=WPIX ABB=ON PLU=ON L61 AND L57  
L63 2 SEA FILE=WPIX ABB=ON PLU=ON L61 AND (L58 OR L59)  
L64 6 SEA FILE=WPIX ABB=ON PLU=ON (L62 OR L63)  
L65 6 SEA FILE=WPIX ABB=ON PLU=ON L64 AND ((L13 OR L14 OR L15) OR (L21 OR L22) OR (L37 OR L38))  
L66 6 SEA FILE=WPIX ABB=ON PLU=ON (L64 OR L65)  
L67 2 SEA FILE=WPIX ABB=ON PLU=ON L66 AND (L10 OR L11 OR L12)  
L68 1 SEA FILE=WPIX ABB=ON PLU=ON L2 AND L67  
L69 2 SEA FILE=WPIX ABB=ON PLU=ON (L67 OR L68)  
L70 4 SEA FILE=WPIX ABB=ON PLU=ON L66 NOT L69

=> d his 175

(FILE 'ANTE, EMA, APOLLIT, RAPRA, INSPEC, COMPENDEX, MEDLINE, BIOSIS, EMBASE, PASCAL, SCISEARCH, CONFSCI, DISSABS, RDISCLOSURE' ENTERED AT 14:45:25 ON 24 OCT 2008)

L75 2 S L73 NOT L74

=> d que 175

L10 QUE ABB=ON PLU=ON SUZUKI, E?/AU  
L11 QUE ABB=ON PLU=ON OZAWA, Y?/AU  
L12 QUE ABB=ON PLU=ON (BRIDGESTONE OR (BRIDGE(1W)STONE))/CS, SO, PA  
L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L37 QUE ABB=ON PLU=ON ?SILAN? OR ?SILYL?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W)(AMINE OR AMINO))  
L71 829 SEA L38(5A) L37

10/599,651

L72 153786 SEA L13 (5A) (L14 OR L15)  
L73 2 SEA L71 (15A) L72  
L74 0 SEA L73 AND (L10 OR L11 OR L12)  
L75 2 SEA L73 NOT L74

=> d que 180

L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L37 QUE ABB=ON PLU=ON ?SILAN? OR ?SILYL?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W) (AMINE OR AMINO))  
L57 QUE ABB=ON PLU=ON C08F0036-04/IPC  
L76 78 SEA FILE=JAPIO ABB=ON PLU=ON L38(5A)L37  
L77 1 SEA FILE=JAPIO ABB=ON PLU=ON L76 AND L57  
L78 31301 SEA FILE=JAPIO ABB=ON PLU=ON L13 (5A) (L14 OR L15)  
L79 1 SEA FILE=JAPIO ABB=ON PLU=ON L76 (20A)L78  
L80 2 SEA FILE=JAPIO ABB=ON PLU=ON L77 OR L79

=> dup rem 147 156 170 175 180

DUPLICATE IS NOT AVAILABLE IN 'RDISCLOSURE'.  
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE  
FILE 'HCAPLUS' ENTERED AT 14:56:16 ON 24 OCT 2008  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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FILE 'CASREACT' ENTERED AT 14:56:16 ON 24 OCT 2008  
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FILE 'JAPIO' ENTERED AT 14:56:16 ON 24 OCT 2008  
COPYRIGHT (C) 2008 Japanese Patent Office (JPO)- JAPIO  
PROCESSING COMPLETED FOR L47  
PROCESSING COMPLETED FOR L56  
PROCESSING COMPLETED FOR L70  
PROCESSING COMPLETED FOR L75  
PROCESSING COMPLETED FOR L80

L81 40 DUP REM L47 L56 L70 L75 L80 (0 DUPLICATES REMOVED)  
ANSWERS '1-28' FROM FILE HCAPLUS  
ANSWERS '29-32' FROM FILE CASREACT  
ANSWERS '33-36' FROM FILE WPIX  
ANSWER '37' FROM FILE RAPRA  
ANSWER '38' FROM FILE COMPENDEX  
ANSWERS '39-40' FROM FILE JAPIO

=> file stnguide

10/599,651

FILE 'STNGUIDE' ENTERED AT 14:56:35 ON 24 OCT 2008  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
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FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Oct 17, 2008 (20081017/UP).

=> d ibib ed abs hitind hitstr 1-10

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' - CONTINUE? (Y)/N:y

L81 ANSWER 1 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2008:1102557 HCAPLUS Full-text  
 DOCUMENT NUMBER: 149:357248  
 TITLE: Production of aminosilane-modified conjugated diene polymers and silica-filled rubber compositions  
 INVENTOR(S): Oshima, Mayumi  
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
 SOURCE: PCT Int. Appl., 54pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008108377	A1	20080912	WO 2008-JP53886	20080227
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008239966	A	20081009	JP 2008-43945	20080226
PRIORITY APPLN. INFO.:			JP 2007-48930	A 20070228

ED Entered STN: 12 Sep 2008

AB The invention relates to a conjugated diene-based polymer capable of providing a polymer composition which is excellent in reduction in fuel consumption when silica is incorporated as a filler, a process for producing the conjugated diene-based polymer, and a polymer composition comprising the conjugated diene-based polymer and silica. The conjugated diene-based polymer comprises a conjugated diene unit and a constitutional unit expressed by the formula -CH<sub>2</sub>-CH(SiX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>)-, which is positioned between one of the conjugated diene units and another one of the conjugated diene units, where X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub> represent independently a group expressed by the formula -NR<sub>1</sub>R<sub>2</sub>, hydroxyl, or alkyl, and at least one of X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub> is the group expressed by the formula -NR<sub>1</sub>R<sub>2</sub> or hydroxyl, where R<sub>1</sub> and R<sub>2</sub> represent independently a hydrocarbon group having 1 to 6 carbon atoms which may contain a nitrogen atom, an oxygen atom, or a silicon atom, and R<sub>1</sub> and R<sub>2</sub> may be joined to form a ring.

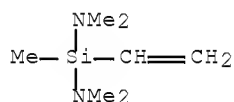
CC 39-4 (Synthetic Elastomers and Natural Rubber)

IT Styrene-butadiene rubber, preparation

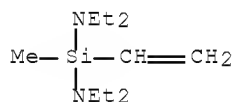
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(aminosilane-containing; production of aminosilane-modified conjugated diene

- polymers and silica-filled rubber compns.)
- IT Polymerization  
(anionic, living; production of aminosilane-modified conjugated diene polymers and silica-filled rubber compns.)
- IT 13368-45-1, Bis(dimethylamino)methylvinylsilane 18023-34-2  
, Bis(diethylamino)methylvinylsilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(production of aminosilane-modified conjugated diene polymers and silica-filled rubber compns.)
- IT 9003-55-8P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(~~styrene-butadiene~~ rubber, aminosilane-containing; production of aminosilane-modified conjugated diene polymers and silica-filled rubber compns.)
- IT 13368-45-1, Bis(dimethylamino)methylvinylsilane 18023-34-2  
, Bis(diethylamino)methylvinylsilane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(production of aminosilane-modified conjugated diene polymers and silica-filled rubber compns.)
- RN 13368-45-1 HCAPLUS
- CN Silanedi-amine, 1-ethenyl-N,N,N',N',1-pentamethyl- (CA INDEX NAME)



- RN 18023-34-2 HCAPLUS
- CN Silanedi-amine, 1-ethenyl-N,N,N',N'-tetraethyl-1-methyl- (CA INDEX NAME)

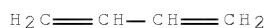


- IT 9003-55-8P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(~~styrene-butadiene~~ rubber, aminosilane-containing; production of aminosilane-modified conjugated diene polymers and silica-filled rubber compns.)
- RN 9003-55-8 HCAPLUS
- CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

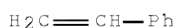
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2008:806119 HCAPLUS Full-text

DOCUMENT NUMBER: 149:87772

TITLE: Polymer coating comprising silane derivatives, lactone polymer, and polyester bonded to metal surfaces of medical devices such as stents

INVENTOR(S): Zhao, Jonathon Z.

PATENT ASSIGNEE(S): Cordis Corporation, USA

SOURCE: PCT Int. Appl., 48pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008079549	A2	20080703	WO 2007-US84948	20071116
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 20080152929	A1	20080626	US 2006-614395	20061221
PRIORITY APPLN. INFO.:			US 2006-614395	A 20061221

ED Entered STN: 04 Jul 2008

AB Coatings are provided in which surfaces may be activated by covalently bonding a combination of silane derivs. (A) to the metal surface, covalently bonding a lactone polymer (B) to the silane derivative by in situ ring opening polymerization, and depositing at least one layer of a polyester (C) on the bonded lactone polymer. Biol. active agents or therapeutic compds. may be



deposited with any of the polyester layers. Such coated surfaces may be useful in medical devices, in particular stents. Coatings are provided in which surfaces may be activated by covalently bonding a combination of silane derivs. (A) to the metal surface, covalently bonding a lactone polymer (B) to the silane derivative by in situ ring opening polymerization, and depositing at least one layer of a polyester (C) on the bonded lactone polymer. Biol. active agents or therapeutic compds. may be deposited with any of the polyester layers. Such coated surfaces may be useful in medical devices, in particular stents.

CC 63-7 (Pharmaceuticals)

IT Amines, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(diamines; polymer coating comprising silane

derivs., lactone polymer, and polyester bonded to metal surfaces of medical devices such as stents)

IT Anti-inflammatory agents

Anticoagulants

Coating process

Cytotoxic agents

Epoxy group

Medical goods

Pharmaceutical coatings

Pharmaceutical implants

Polymerization catalysts

Silylation

Sulfhydryl group

(polymer coating comprising silane derivs., lactone polymer, and polyester bonded to metal surfaces of medical devices such as stents)

L81 ANSWER 3 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2008:772811 HCAPLUS Full-text

DOCUMENT NUMBER: 149:87729

TITLE: Polymer coating comprising silane derivatives, lactone polymer, and polyester bonded to metal surfaces of medical devices such as stents

INVENTOR(S): Zhao, Jonathon Z.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 15pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20080152929	A1	20080626	US 2006-614395	20061221
WO 2008079549	A2	20080703	WO 2007-US84948	20071116
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.:

US 2006-614395

A 20061221

ED Entered STN: 26 Jun 2008

AB Coatings are provided in which surfaces may be activated by covalently bonding a combination of silane derivs. (A) to the metal surface, covalently bonding a lactone polymer (B) to the silane derivative by in situ ring opening polymerization, and depositing at least one layer of a polyester (C) on the bonded lactone polymer. Biol. active agents or therapeutic compds. may be deposited with any of the polyester layers. Such coated surfaces may be useful in medical devices, in particular stents.

INCL 428447000; 029527300; 623001150

CC 63-7 (Pharmaceuticals)

IT Amines, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(diamines; polymer coating comprising silane derivs., lactone polymer, and polyester bonded to metal surfaces of medical devices such as stents)

IT Anti-inflammatory agents

Anticoagulants

Coating process

Cytotoxic agents

Epoxy group

Medical goods

Pharmaceutical coatings

Pharmaceutical implants

Polymerization catalysts

Silylation

Sulfhydryl group

(polymer coating comprising silane derivs., lactone polymer, and polyester bonded to metal surfaces of medical devices such as stents)

L81 ANSWER 4 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:874510 HCAPLUS Full-text

DOCUMENT NUMBER: 147:236521

TITLE: Hydrogenated diene polymer compositions and their moldings for vibration dampers

INVENTOR(S): Suzuki, Takahisa; Higuchi, Motoharu; Hasegawa, Kenji; Nosaka, Naoya

PATENT ASSIGNEE(S): JSR Corporation, Japan

SOURCE: PCT Int. Appl., 44pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007088980	A1	20070809	WO 2007-JP51822	20070202
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

EP 1980589                      A1      20081015      EP 2007-707971                      20070202  
 R: DE, FR, GB  
 PRIORITY APPLN. INFO.:                      JP 2006-26048                      A      20060202  
    JP 2006-73219                      A      20060316  
    WO 2007-JP51822                      W      20070202

ED      Entered STN: 10 Aug 2007

AB      A title composition contains 100 parts a first hydrogenated diene polymers having vinyl configuration units before hydrogenation (A1) of 20-70%, hydrogenation degree (A2) of 72-96%, polydispersity (Mw/Mn) of 1.0-3.0, weight-average mol. weight (Mw) of 105-1,700,000 and 5-100 parts a first fillers. A composition containing a hydrogenated butadiene rubber (HBR; with A1 35.2%, A2 91.2%, Mw = 752,000, Mw/Mn 1.09; prepared in presence of LiH and titanocene dichloride hydrogenation catalyst) 100, Nipsil ER 30, Percumyl D 5, and S 0.2 parts showed good processability and was vulcanized to form a sheet with compression set (120°, 70 h) 22%, and static/dynamic modulus ratio 1.41; vs., 46 and 2.38, resp., for a sheet prepared from a similar composition containing HBR with A1 60.9, A2 90.4, Mw 265,000, and Mw/Mn 1.21.

CC      39-9 (Synthetic Elastomers and Natural Rubber)

IT      Synthetic rubber, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
       (butadiene-isoprene, hydrogenated; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

IT      Synthetic rubber, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
       (butadiene-isoprene-styrene, hydrogenated; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

IT      Butadiene rubber, preparation  
       Styrene-butadiene rubber, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
       (hydrogenated; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

IT      9003-17-2DP, hydrogenated  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
       (butadiene rubber; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

IT      2530-86-1, N,N-Dimethylaminopropyltrimethoxysilane 10026-04-7, Silicon tetrachloride 124885-97-8 201290-01-9 945662-87-3  
 RL: MOA (Modifier or additive use); USES (Uses)  
       (in preparation of modified diene rubbers; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

IT      25102-52-7DP, Butadiene-isoprene copolymer, hydrogenated 26602-62-0DP, Butadiene-isoprene-styrene copolymer, hydrogenated  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
       (rubber; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

IT      9003-55-8DP, hydrogenated

10/599,651

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(~~styrene-butadiene~~ rubber; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

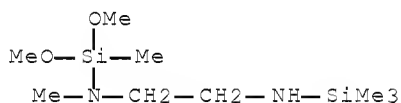
IT 945662-87-3

RL: MOA (Modifier or additive use); USES (Uses)

(in preparation of modified diene rubbers; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

RN 945662-87-3 HCAPLUS

CN 1,2-Ethanediamine, N1-(dimethoxymethylsilyl)-N1-methyl-N2-(trimethylsilyl)- (CA INDEX NAME)



IT 9003-55-8DP, hydrogenated

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(~~styrene-butadiene~~ rubber; hydrogenated diene rubbers with controlled properties for compns. with low compression set for vibration dampers)

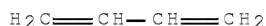
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

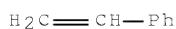
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT:

17

THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2007:350810 HCAPLUS Full-text  
 DOCUMENT NUMBER: 146:360355  
 TITLE: Conjugated diene polymers for vulcanized rubbers with  
 balanced properties for tire treads and their  
 manufacture  
 INVENTOR(S): Yamada, Haruo; Toda, Keiichi; Ishimura, Norifusa  
 PATENT ASSIGNEE(S): Asahi Kasei Chemicals Corporation, Japan; Shin-Etsu  
 Chemical Co., Ltd.  
 SOURCE: PCT Int. Appl., 56pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

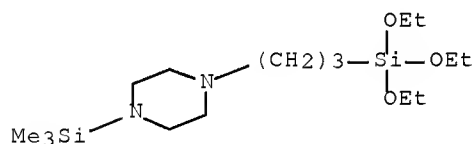
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007034785	A1	20070329	WO 2006-JP318514	20060919
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 1942120	A1	20080709	EP 2006-810256	20060919
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR			
KR 2008035018	A	20080422	KR 2008-706898	20080321
CN 101268107	A	20080917	CN 2006-80034871	20080321
PRIORITY APPLN. INFO.:			JP 2005-275572	A 20050922
			WO 2006-JP318514	W 20060919

ED Entered STN: 29 Mar 2007

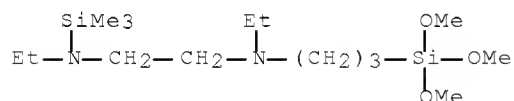
AB Title polymers are prepared by polymerizing conjugated dienes (CD) or CD and aromatic vinyl compds. (AV) in presence of organic alkali or alkaline earth metal compds. as initiators in hydrocarbon solvents, then reacting the living terminal groups of the formed polymers with low mol. weight compds. (OR4)gSi(R33-g)R1NR2SiR5R6R7 (I; R1 = the aminosilyl N atom not adjacent N-containing organic group having mol. weight of  $\leq 103$ ; R2 = C1-10 hydrocarbyl or H-free Si-, O-, N-, or S-substituted C1-10 hydrocarbyl; R3, R4 = C1-20 alkyl or aryl; R5-R7 = C1-20 alkyl or aryl, C1-12 alkoxy; g = 1-3 integer; the R1-R2 capable to form heterocyclic ring with N in I). A 3-trimethoxysilylpropyl-N,N'-diethyl-N'-trimethylsilylethane-1,2-diamine-modified 25:75 styrene-butadiene rubber (prepared as described above) showed modification degree 83% and Mooney viscosity (VS) of 53, 70 parts of which was kneaded with natural rubber 30, SiO2 45, and carbon black 5 parts with other additives to form a composition with VS 64 and filler-bound rubber content 62%; the composition was mixed with S and vulcanization accelerators and pressed at 160° to form a sheet with heat developing temperature 20°, 0° tan $\delta$  0.648 at 1% strain, 50° tan $\delta$  0.073 at 3% strain, 50°  $\Delta G'$  0.68 Mpa, and high wear resistance.

CC 39-13 (Synthetic Elastomers and Natural Rubber)

- IT Styrene-butadiene rubber, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (reaction products; manufacture of alkoxy or aryloxy silylamine-modified conjugated diene rubbers for tire treads)
- IT 911696-16-7DP, reaction products with living SBR  
930297-45-3DP, reaction products with living SBR  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (rubber; manufacture of alkoxy or aryloxy silylamine-modified conjugated diene rubbers for tire treads)
- IT 9003-55-8DP, reaction products  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (styrene-butadiene rubber; manufacture of alkoxy or aryloxy silylamine-modified conjugated diene rubbers for tire treads)
- IT 911696-16-7DP, reaction products with living SBR  
930297-45-3DP, reaction products with living SBR  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (rubber; manufacture of alkoxy or aryloxy silylamine-modified conjugated diene rubbers for tire treads)
- RN 911696-16-7 HCAPLUS
- CN Piperazine, 1-[3-(triethoxysilyl)propyl]-4-(trimethylsilyl)- (CA INDEX NAME)



- RN 930297-45-3 HCAPLUS
- CN 1,2-Ethanediamine, N1,N2-diethyl-N1-[3-(trimethoxysilyl)propyl]-N2-(trimethylsilyl)- (CA INDEX NAME)

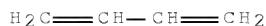


- IT 9003-55-8DP, reaction products  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (styrene-butadiene rubber; manufacture of alkoxy or aryloxy silylamine-modified conjugated diene rubbers for tire treads)

RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

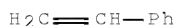
CM 1

CRN 106-99-0  
 CMF C4 H6



CM 2

CRN 100-42-5  
 CMF C8 H8



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 6 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:1253818 HCAPLUS Full-text  
 DOCUMENT NUMBER: 146:28409  
 TITLE: Polymer compositions and adhesives, coatings and sealants therefrom  
 INVENTOR(S): Feng, Ta-Min; Mishra, Steve S.  
 PATENT ASSIGNEE(S): Tremco Incorporated, USA  
 SOURCE: PCT Int. Appl., 21pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006128015	A2	20061130	WO 2006-US20492	20060524
WO 2006128015	A3	20080515		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA			
US 20060270770	A1	20061130	US 2005-138730	20050526

10/599,651

AU 2006249754	A1	20061130	AU 2006-249754	20060524
CA 2609555	A1	20061130	CA 2006-2609555	20060524
EP 1943303	A2	20080716	EP 2006-784487	20060524
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
CN 101287786	A	20081015	CN 2006-80017503	20071120
MX 200714661	A	20080211	MX 2007-14661	20071122
KR 2008011431	A	20080204	KR 2007-728625	20071207
PRIORITY APPLN. INFO.:			US 2005-138730	A 20050526
			WO 2006-US20492	W 20060524

ED Entered STN: 01 Dec 2006

AB The compns. contain: (A) 1-99% silane group-containing organic polymer with mol. weight  $\geq 1000$ , (B) 1-45%  $\geq 1$  organopolysiloxanes, and (C) 0-98% organic polymer that lacks functional silane groups. A typical composition comprised silane and aromatic alc. end-capped polyurethane polymer 27.86, 80,000 cps silane terminated dimethylpolysiloxane 5, 20,000 cps silane terminated dimethylpolysiloxane 5, organic plasticizer 9, white tint paste 6.5, coated precipitated calcium carbonate 41, rheol. control agent 0.5, fume silica 0.5, UV stabilizer 0.4, hexamethyldisilazane 1, vinyltrimethoxysilane 1, methyltris-methylethylketoximosilane 0.8, vinyltris-methylethylketoximosilane 0.8, aminoprpyltrimethoxysilane 0.1, N-ethylaminoisobutyltrimethoxysilane 0.5, dibutyltin diacetate 0.04 parts.

CC 37-6 (Plastics Manufacture and Processing)

IT Adhesion promoters

Adhesives

Catalysts

Coating materials

Crosslinking agents

Fungicides

Sealing compositions

Thickening agents

UV stabilizers

(polymer compns. and adhesives, coatings and sealants therefrom)

IT 78-10-4, Tetraethoxysilane 471-34-1, Calcium carbonate, uses 999-97-3, Hexamethyldisilazane 1067-33-0, Dibutyltin diacetate 1185-55-3, Methyltrimethoxysilane 1305-78-8, Calcium oxide, uses 1314-13-2, Zinc oxide, uses 1335-30-4, Aluminum silicate 2224-33-1, Vinyltris(methyl ethyl ketoximino)silane 2530-83-8, Glycidoxypopyltrimethoxysilane 2768-02-7, Vinyl trimethoxysilane 6651-38-3 13822-56-5, Aminopropyltrimethoxysilane 14807-96-6, Talc, uses 15332-99-7, Vinyltriisopropenoxysilane 15901-40-3, Methyltriscyclohexylaminosilane 22984-54-9, Methyltris(methyl ethyl ketoximato)silane 37697-65-7, Methyltris(sec-butylamino)silane 227085-51-0, N-Ethylaminoisobutyltrimethoxysilane  
RL: MOA (Modifier or additive use); USES (Uses)

(polymer compns. and adhesives, coatings and sealants therefrom)

IT 9002-86-2, Polyvinylchloride 9003-17-2, Polybutadiene 9003-53-6, Polystyrene 9003-55-8, Butadiene-styrene copolymer 9016-00-6, Dimethyl siloxane 31692-79-2

RL: POF (Polymer in formulation); USES (Uses)

(polymer compns. and adhesives, coatings and sealants therefrom)

IT 15901-40-3, Methyltriscyclohexylaminosilane 37697-65-7, Methyltris(sec-butylamino)silane

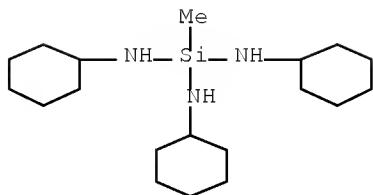
RL: MOA (Modifier or additive use); USES (Uses)

(polymer compns. and adhesives, coatings and sealants therefrom)

RN 15901-40-3 HCAPLUS

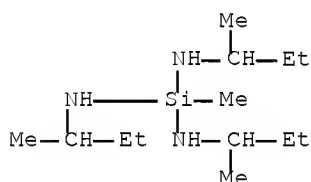
CN Silanetriamine, N,N',N''-tricyclohexyl-1-methyl- (CA INDEX NAME)





RN 37697-65-7 HCAPLUS

CN Silanetriamine, 1-methyl-N,N',N''-tris(1-methylpropyl)- (CA INDEX NAME)



IT 9003-55-8, Butadiene-styrene copolymer

RL: POF (Polymer in formulation); USES (Uses)

(polymer compns. and adhesives, coatings and sealants therefrom)

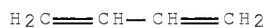
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

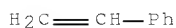
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



L81 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:1062339 HCAPLUS Full-text  
 DOCUMENT NUMBER: 145:398956

TITLE: Abrasion-resistant amino-substituted aromatic compound-terminated conjugated diolefin polymers and their manufacture  
 INVENTOR(S): Matsumoto, Takaomi; Tadaki, Toshihiro  
 PATENT ASSIGNEE(S): Jsr Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 24pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006274178	A	20061012	JP 2005-99059	20050330
PRIORITY APPLN. INFO.:			JP 2005-99059	20050330

OTHER SOURCE(S): MARPAT 145:398956

ED Entered STN: 12 Oct 2006

AB The conjugated diolefin polymers, useful for tires, comprise conjugated diene polymers or conjugated diene-aromatic vinyl compound copolymers and ends of CH<sub>2</sub>-aromatic compds.-NH<sub>2</sub>-o. Thus, 1,3-butadiene was polymerized with styrene in the presence of THF and a BuLi/N,N-bis(trimethylsilyl)-o-toluidine catalyst in cyclohexane to give an amino-terminated SBR showing Mw 320,000 and Mooney viscosity (ML1+4, at 100°, JIS K 6300) 55. A vulcanized composition comprising the amino-terminated SBR showed balanced with low rolling resistance and good wet-skid resistance.

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST abrasion resistance amino terminated SBR tire; wet skid resistance tire bistrimethylsilyltoluidine SBR; low rolling resistance tire amino SBR; butyllithium bistrimethylsilyltoluidine catalyst cyclohexane solvent SBR

IT Styrene-butadiene rubber, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (amino-terminated; abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT Solvents

(hydrocarbons, for polymerization; abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT Butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (of cis-1,4-configuration, BR 01; abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses) (polymerization solvents; abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT Polymerization

Polymerization catalysts

(solution; abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT 9003-17-2D, of cis-1,4-configuration

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (butadiene rubber, BR 01; abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT 109-72-8DP, Butyllithium, reaction products with

N,N-bistrimethylsilyl-o-toluidine, reaction products with SBR

7439-93-2DP, Lithium, reaction products with  
 N,N-bis(trimethylsilyl)-o-toluidine, reaction products with SBR  
 126742-78-7DP, N,N-Bis(trimethylsilyl)-o-toluidine, reaction products with  
 lithium derivs., reaction products with SBR 911483-44-8DP,  
 N,N,N',N'-Tetrakis(trimethylsilyl)-3,3'-dimethyl-4,4'-  
 diaminodiphenylmethane, reaction products with lithium derivs., reaction  
 products with SBR

RL: CAT (Catalyst use); IMF (Industrial manufacture); POF (Polymer in  
 formulation); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)

(polymerization catalyst, rubber; abrasion-resistant  
 NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

IT 110-82-7, Cyclohexane, uses

RL: NUU (Other use, unclassified); USES (Uses)

(polymerization solvent; abrasion-resistant NH<sub>2</sub>-substituted aromatic  
 compound-terminated and modified SBR for tires)

IT 9003-55-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (styrene-butadiene rubber, amino-terminated;

abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and  
 modified

SBR for tires)

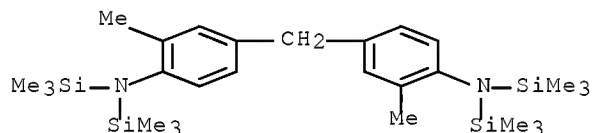
IT 911483-44-8DP, N,N,N',N'-Tetrakis(trimethylsilyl)-3,3'-dimethyl-  
 4,4'-diaminodiphenylmethane, reaction products with lithium derivs.,  
 reaction products with SBR

RL: CAT (Catalyst use); IMF (Industrial manufacture); POF (Polymer in  
 formulation); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)

(polymerization catalyst, rubber; abrasion-resistant  
 NH<sub>2</sub>-substituted aromatic compound-terminated and modified SBR for tires)

RN 911483-44-8 HCAPLUS

CN Silanamine, N,N'-[methylenebis(2-methyl-4,1-phenylene)]bis[1,1,1-trimethyl-  
 N-(trimethylsilyl)- (9CI) (CA INDEX NAME)



IT 9003-55-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (styrene-butadiene rubber, amino-terminated;

abrasion-resistant NH<sub>2</sub>-substituted aromatic compound-terminated and  
 modified

SBR for tires)

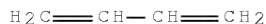
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

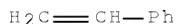
CRN 106-99-0

CMF C4 H6



CM 2

CRN 100-42-5  
CMF C8 H8



L81 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:430844 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:7642  
 TITLE: Process for homo or copolymerization of  
 conjugated dienes and in situ formation of polymer  
 blends and products made thereby  
 INVENTOR(S): Thiele, Sven K.-H.; Wilson, David R.; Knoll, Susanne;  
 Nord, Gerhard; Leukefeld, Wilfried; Pistor, Ina  
 PATENT ASSIGNEE(S): Dow Global Technologies, Inc., USA  
 SOURCE: PCT Int. Appl., 58 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004044018	A2	20040527	WO 2003-US33244	20031020
WO 2004044018	A3	20040805		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003282957	A1	20040603	AU 2003-282957	20031020
PRIORITY APPLN. INFO.:			US 2002-424670P	P 20021107
			WO 2003-US33244	W 20031020

OTHER SOURCE(S): MARPAT 141:7642

ED Entered STN: 27 May 2004

AB Metal complexes are disclosed containing at least one metal-nitrogen metal-phosphorus bond, more particularly at least one metal-nitrogen or metal-phosphorus bond and at least one bond by the metal to an aromatic ring system. The preparation of the catalyst and the use of the prepared catalyst to produce homopolymers or copolymers of conjugated dienes or copolymers of conjugated dienes with alpha-olefins are also disclosed. In particular, the

production of (1) polymer blends of (a) homo or copolymers of conjugated dienes through polymerization of 1,3-butadiene and/or isoprene with (b) copolymers of conjugated dienes with alpha olefins through copolymerization of 1,3-butadiene or isoprene with ethylene, propene, octene or styrene and (2) polymer blends of (a) homo or copolymers of conjugated dienes through polymerization of 1,3-butadiene and/or isoprene with (b) homopolymers or copolymers of alpha olefins through homo or copolymerization of ethylene, propene, octene or styrene in the same reaction system using the catalyst system of the invention is described.

IC ICM C08F210-02

ICS C08F004-62

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 37, 39

ST conjugated diene polymers metal complex catalyst

IT Aluminoxanes

RL: CAT (Catalyst use); USES (Uses)

(Me; homo or copolymerization of conjugated dienes and in situ

formation of polymer blends and products using metal complexes)

IT Conveyor belts

Gaskets

Golf balls

Hoses

Polymerization catalysts

Seals (parts)

Shoes

Tires

(homo or copolymerization of conjugated dienes and in situ formation

of polymer blends and products using metal complexes)

IT Butadiene rubber, preparation

Styrene-butadiene rubber, preparation

Synthetic rubber, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(homo or copolymerization of conjugated dienes and in situ formation

of polymer blends and products using metal complexes)

IT Molded plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(homo or copolymerization of conjugated dienes and in situ formation

of polymer blends and products using metal complexes)

IT Plastic foams

RL: TEM (Technical or engineered material use); USES (Uses)

(homo or copolymerization of conjugated dienes and in situ formation

of polymer blends and products using metal complexes)

IT 9003-17-2P

RL: IMF (Industrial manufacture); PREP (Preparation)

(butadiene rubber, homo or copolymerization of conjugated

dienes and in situ formation of polymer blends and products using metal complexes)

IT 135072-61-6P 135539-49-0P ~~203067-69-0P~~ ~~203067-70-3P~~

479071-46-0P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(homo or copolymerization of conjugated dienes and in situ formation

of polymer blends and products using metal complexes)

IT 9003-17-2P, 1,3-Butadiene homopolymer ~~9003-55-8P~~, 1,3-

Butadiene-styrene copolymer 25068-01-3P,

1,3-Butadiene-ethylene copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)

(homo or copolymerization of conjugated dienes and in situ formation

of polymer blends and products using metal complexes)

IT 31554-37-7P 125542-03-2P 125542-04-3P 135609-98-2P

203067-67-8P 203067-68-9P 577995-02-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(homo or copolymn. of conjugated dienes and in situ formation of polymer blends and products using metal complexes)

IT 75-64-9, tert-Butylamine, reactions 75-78-5, Dimethyldichlorosilane 83-33-0, 1-Indanone 109-72-8, Butyllithium, reactions 123-75-1, Pyrrolidine, reactions 917-64-6, Methylmagnesium iodine 4249-10-9, 1,2,3,4-Tetramethylcyclopentadiene 7550-45-0, Titanium chloride (TiCl<sub>4</sub>), reactions 10026-11-6, Zirconium chloride (ZrCl<sub>4</sub>) 60556-33-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(homo or copolymn. of conjugated dienes and in situ formation of polymer blends and products using metal complexes)

IT 9003-55-8P

RL: IMF (Industrial manufacture); PREP (Preparation)

(styrene-butadiene rubber, homo or copolymn.

. of conjugated dienes and in situ formation of polymer blends and products using metal complexes)

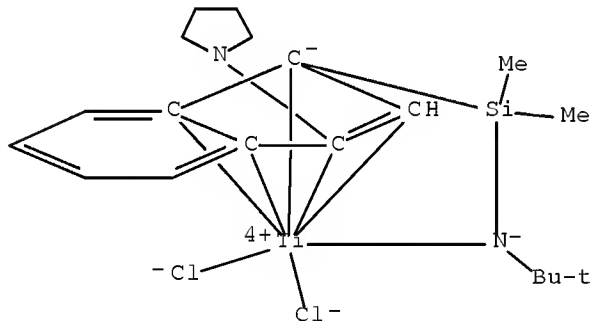
IT 203067-69-0P 203067-70-3P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(homo or copolymn. of conjugated dienes and in situ formation of polymer blends and products using metal complexes)

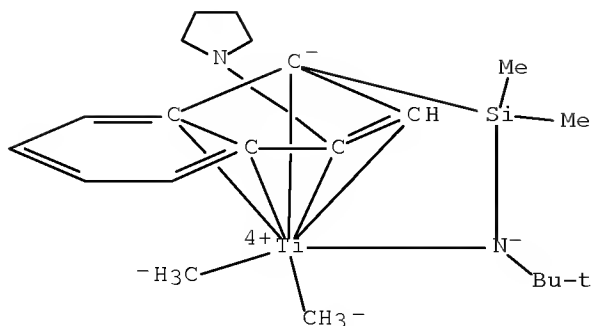
RN 203067-69-0 HCAPLUS

CN Titanium, dichloro[N-(1,1-dimethylethyl)-1,1-dimethyl-1-[(1,2,3,3a,7a-η)-3-(1-pyrrolidinyl)-1H-inden-1-yl]silanaminato(2-)-κN]- (CA INDEX NAME)



RN 203067-70-3 HCAPLUS

CN Titanium, [N-(1,1-dimethylethyl)-1,1-dimethyl-1-[(1,2,3,3a,7a-η)-3-(1-pyrrolidinyl)-1H-inden-1-yl]silanaminato(2-)-κN]dimethyl- (CA INDEX NAME)



IT 9003-55-8P, 1,3-Butadiene-styrene  
copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)  
(homo or copolymn. of conjugated dienes and in situ formation  
of polymer blends and products using metal complexes)

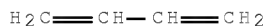
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

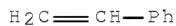
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



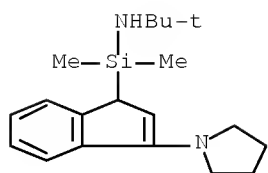
IT 203067-67-8P 203067-68-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)

(homo or copolymn. of conjugated dienes and in situ formation  
of polymer blends and products using metal complexes)

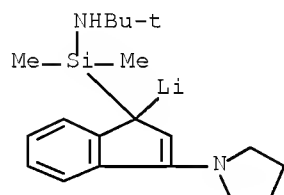
RN 203067-67-8 HCAPLUS

CN Silanamine, N-(1,1-dimethylethyl)-1,1-dimethyl-1-[3-(1-pyrrolidinyl)-1H-  
inden-1-yl]- (CA INDEX NAME)



RN 203067-68-9 HCAPLUS

CN Lithium, [1-[[[1,1-dimethylethyl]amino]dimethylsilyl]-3-(1-pyrrolidinyl)-1H-inden-1-yl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

IT 9003-55-8P

RL: IMF (Industrial manufacture); PREP (Preparation)

(styrene-butadiene rubber, homo or copolymers

. of conjugated dienes and in situ formation of polymer blends and products using metal complexes)

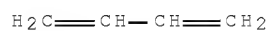
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

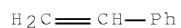
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8





L81 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:759647 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:278585  
 TITLE: Moisture-curable hot-melt sealants for glass constructions  
 INVENTOR(S): Nguyen-Misra, Mai T.; Acevedo, Margarita  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 16 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040180155	A1	20040916	US 2003-386823	20030313
US 6803412	B2	20041012		
WO 2004083296	A2	20040930	WO 2004-US7417	20040311
WO 2004083296	A3	20050407		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1601704	A2	20051207	EP 2004-719764	20040311
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
JP 2006523253	T	20061012	JP 2006-507073	20040311
PRIORITY APPLN. INFO.:			US 2003-386823	A 20030313
			WO 2004-US7417	W 20040311

ED Entered STN: 17 Sep 2004

AB A moisture-curable hot-melt sealant composition includes polyurethane prepolymer having  $\geq 1$  isocyanate functional groups and silane functional groups, reactive plasticizer capable of reacting with  $\geq 1$  polyurethane prepolymer and itself, and thermoplastic polymer. An example prepolymer was formed of MDI/PRIPLAST 3187/PRIPLAST 3190 copolymer reacted with Silquest A LINK 15.

IC ICM C08L075-00

INCL 428034000; X52-8 6.6; X52-510.0

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 57

IT Styrene-butadiene rubber, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

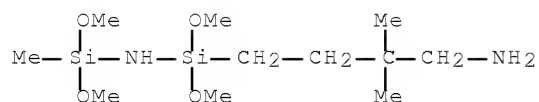
(block; moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)

IT Butadiene rubber, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hydroxy-terminated, polyurethane derivative, reaction products with silane; moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)

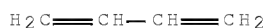
- IT Butyl rubber, uses  
 Isobutylene rubber  
 Isoprene-styrene rubber  
 Polyamides, uses  
 Polyesters, uses  
 Polyimides, uses  
 Polysiloxanes, uses  
Styrene-butadiene rubber, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- IT 9003-17-2DP, hydroxy-terminated  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
Butadiene rubber, polyurethane derivative, reaction products with silane; moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- IT 25038-32-8  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (isoprene-styrene rubber; moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- IT 29382-69-2DP, DYNASYLAN 6490, reaction products with polyurethanes  
 227085-51-0DP, SilQUEST ALINK 15, reaction products with polyurethanes  
~~756857-38-2DP~~, reaction products with polyurethanes  
 757238-69-0DP, reaction products with silane 757238-70-3DP, reaction products with silane 757238-71-4DP, reaction products with silane  
 757238-72-5DP, reaction products with silane  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- IT 9002-86-2, Polyvinyl chloride 9003-05-8, Polyacrylamide 9003-53-6, Polystyrene 24937-78-8, ATEVA 4030AC 25014-41-9, Polyacrylonitrile  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- IT ~~9003-55-8~~ 106107-54-4  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
styrene-butadiene rubber; moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- IT ~~756857-38-2DP~~, reaction products with polyurethanes  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)
- RN 756857-38-2 HCAPLUS
- CN 2-Oxa-4-aza-3,5-disilanonane-3,5,9-triamine,  
 3,5,5-trimethoxy-3,8,8-trimethyl- (CA INDEX NAME)



IT 9003-55-8  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (styrene-butadiene rubber; moisture-curable polyurethane/thermoplastic hot-melt adhesives for insulated glass unit constructions)  
 RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0  
 CMF C4 H6



CM 2

CRN 100-42-5  
 CMF C8 H8



REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:376293 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:71886  
 TITLE: Polymerization of butadiene and copolymerization of butadiene with styrene using neodymium amide catalysts  
 AUTHOR(S): Monteil, Vincent; Spitz, Roger; Boisson, Christophe  
 CORPORATE SOURCE: Laboratoire de Chimie et Procédés de Polymerization, CNRS/CPE, Villeurbanne, 69616, Fr.  
 SOURCE: Polymer International (2004), 53(5), 576-581  
 CODEN: PLYIEI; ISSN: 0959-8103  
 PUBLISHER: John Wiley & Sons Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 10 May 2004

- AB The polymerization of butadiene was performed with catalysts based on the complex  $\text{Nd}\{\text{N}(\text{SiMe}_3)_2\}_3$  (1). This amide complex in combination with methylaluminoxane or with a boron compound ( $[\text{HNMe}_2\text{Ph}][\text{B}(\text{C}_6\text{F}_5)_4]$ ,  $[\text{CPh}_3][\text{B}(\text{C}_6\text{F}_5)_4]$  or  $\text{B}(\text{C}_6\text{F}_5)_3$ ) and aluminum tri-iso-butylate showed high activity and stereospecificity in polymerization of butadiene. The cationic complex  $[\text{Nd}\{\text{N}(\text{SiMe}_3)_2\}_2(\text{THF})_2][\text{B}(\text{C}_6\text{F}_5)_4]$  (2) was prepared by reaction of 1 and  $[\text{HNMe}_2\text{Ph}][\text{B}(\text{C}_6\text{F}_5)_4]$ . The catalyst 2/aluminum tri-iso-butylate (ratio Al/Nd: 10/1) was highly active for butadiene polymerization. Copolymerization of butadiene and styrene was performed with the catalytic system  $\text{Nd}\{\text{N}(\text{SiMe}_3)_2\}_3/[\text{HNMe}_2\text{Ph}][\text{B}(\text{C}_6\text{F}_5)_4]/$  aluminum tri-iso-butylate (3).
- CC 35-3 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 78
- ST butadiene styrene stereospecificity polymerization  
catalyst amide complex prepn activator
- IT Aluminoxanes  
RL: CAT (Catalyst use); USES (Uses)  
(Me, polymerization catalyst, activator; butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT Solvent effect  
(butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT Polymerization catalysts  
(stereospecific; butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 108-88-3, Toluene, uses 110-82-7, Cyclohexane, uses 142-82-5, Heptane, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 9003-17-2P, Butadiene homopolymer 9003-55-8P, Butadiene-styrene copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 118612-00-3, Dimethylphenylammonium tetrakis(pentafluorophenyl)borate  
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(catalyst preparation; butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 109-99-9, THF, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(catalyst preparation; butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 1109-15-5, Tris-Pentafluorophenylborane 3453-79-0, Aluminum tri-isobutylate 136040-19-2, Triphenylcarbenium tetrakis(pentafluorophenyl)borate  
RL: CAT (Catalyst use); USES (Uses)  
(polymerization catalyst, activator; butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 96-10-6, uses  
RL: CAT (Catalyst use); USES (Uses)  
(polymerization catalyst; butadiene polymerization and copolymerization with styrene using neodymium amide catalysts)
- IT 41836-23-1, Neodymium tris[bis(trimethylsilyl)amide]

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(polymerization catalyst; butadiene polymerization and copolymn. with styrene using neodymium amide catalysts)

IT 712268-16-1P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(polymerization catalyst; butadiene polymerization and copolymn. with styrene using neodymium amide catalysts)

IT 9003-55-8P, Butadiene-styrene copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(butadiene polymerization and copolymn. with styrene using neodymium amide catalysts)

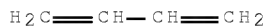
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

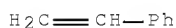
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



IT 712268-16-1P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(polymerization catalyst; butadiene polymerization and copolymn. with styrene using neodymium amide catalysts)

RN 712268-16-1 HCAPLUS

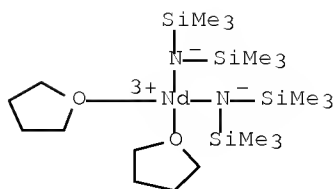
CN Neodymium(1+), bis(tetrahydrofuran)bis[1,1,1-trimethyl-N-(trimethylsilyl)silanaminato]-, (T-4)-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 712268-15-0

CMF C20 H52 N2 Nd O2 Si4

CCI CCS

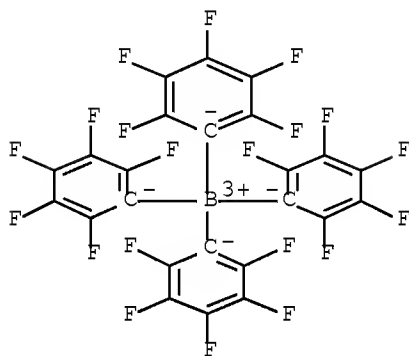


CM 2

CRN 47855-94-7

CMF C24 B F20

CCI CCS



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib ed abs hitind hitstr 11-28

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' - CONTINUE? (Y)/N:y

L81 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:868961 HCAPLUS Full-text

DOCUMENT NUMBER: 137:370473

TITLE: Random or block copolymers produced using metal complex catalysts

INVENTOR(S): Thiele, Sven K. H.; Monroy, Victor M.; Wilson, David R.

PATENT ASSIGNEE(S): Dow Global Technologies Inc., USA

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002090394	A1	20021114	WO 2002-US13830	20020430
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002259115	A1	20021118	AU 2002-259115	20020430
EP 1401879	A1	20040331	EP 2002-729100	20020430
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002009515	A	20040713	BR 2002-9515	20020430
CN 1518561	A	20040804	CN 2002-809364	20020430
JP 2004532320	T	20041021	JP 2002-587470	20020430
US 20040241251	A1	20041202	US 2003-474145	20031003
ZA 2003007859	A	20041008	ZA 2003-7859	20031008
MX 2003PA10095	A	20040316	MX 2003-PA10095	20031104
PRIORITY APPLN. INFO.:			US 2001-288859P	P 20010504
			WO 2002-US13830	W 20020430

OTHER SOURCE(S): MARPAT 137:370473

ED Entered STN: 15 Nov 2002

AB Random or block copolymers are produced by using metal complex catalysts in a reaction of one conjugated diene monomer with one aromatic Random or block copolymers produced from aromatic  $\alpha$ -olefins and conjugated dienes by using metal complexes comprising group 3 to 10 metals in combination with activators and optionally a support material. More particularly the metal complexes used for the synthesis of copolymers are lanthanide metals. Even more particularly diene monomer(s) and aromatic  $\alpha$ -olefin monomer(s) such as, but not limited to, butadiene and styrene or isoprene and styrene are copolymerized, giving random or block copolymers butadiene, styrene and isoprene are copolymerized, giving random or block terpolymers using metal complexes comprising lanthanide metals in combination with activators and optionally a support material. Preferably random copolymers are formed.

IC ICM C08F004-52

ICS C08F236-10

CC 35-3 (Chemistry of Synthetic High Polymers)

ST lanthanide complex catalyst diene copolymer

IT Aluminoxanes

RL: CAT (Catalyst use); USES (Uses)

(Me; random or block copolymers produced using metal complex catalysts)

IT Aluminoxanes

RL: CAT (Catalyst use); USES (Uses)

(iso-Bu; random or block copolymers produced using metal complex catalysts)IT Polymerization catalysts(random or block copolymers produced using metal complex catalysts)

IT Aluminoxanes

Coordination compounds

Lewis acids

RL: CAT (Catalyst use); USES (Uses)

(random or block copolymers produced using metal complex catalysts)

IT 96-10-6, Diethyl aluminum chloride, uses 97-93-8, Triethyl aluminum, uses 100-99-2, Tri-isobutyl aluminum, uses 109-72-8, Butyl lithium, uses 557-20-0, Diethyl zinc 693-04-9, Butyl magnesium chloride 811-49-4, Ethyl lithium 917-54-4, Methyl lithium 1109-15-5, Tris(pentafluorophenyl)boron 1119-90-0, Dibutyl zinc 1191-15-7, Di-isobutyl aluminum hydride 1191-47-5, Dibutyl magnesium 1779-25-5, Diisobutylaluminum chloride 2386-64-3, Ethyl magnesium chloride 2875-36-7, Octyl sodium 7412-67-1, Neopentyllithium 12075-68-2, Ethyl aluminum sesquichloride 24219-37-2, Dioctylmagnesium 38841-98-4, Octyl magnesium chloride 41836-23-1 69929-18-6, Butyl octyl magnesium 75173-82-9 148354-26-1 148354-27-2, Triethylsilyliumtetrakis(pentafluorophenyl)borate 168704-96-9, Tris(pentafluorophenyl)aluminum 169116-84-1 367951-69-7 475092-56-9 475092-59-2 475092-61-6 ~~475092-63-8~~ ~~475092-65-0~~ ~~475092-68-3~~ 475092-70-7 ~~475092-72-9~~ ~~475092-73-0~~ 475092-75-2 475092-77-4 ~~475092-79-6~~ ~~475092-81-0~~ 475092-83-2 475092-85-4 475092-89-8 ~~475092-91-2~~ ~~475092-93-4~~ 475092-96-7 475092-98-9 475093-00-6 ~~475093-02-8~~ ~~475093-04-0~~ ~~475093-07-3~~ ~~475093-09-5~~ 475093-11-9 475093-14-2 475093-16-4 475093-18-6 475093-20-0 475093-22-2 475093-25-5 475093-27-7 475093-33-5 475093-35-7 475093-36-8 475093-38-0 475093-40-4 475093-42-6 475093-44-8 475093-45-9 475093-46-0 475093-47-1 475093-49-3 475093-51-7 475093-53-9 475093-55-1 ~~475093-57-3~~ ~~475093-60-8~~ ~~475093-62-0~~ ~~475093-64-2~~ ~~475093-66-4~~ ~~475093-68-6~~ ~~475093-71-1~~ ~~475093-73-3~~ 475093-75-5 475093-78-8 475093-80-2 475093-82-4 ~~475093-85-7~~ 475093-87-9 ~~475093-89-1~~ 475093-91-5 475093-93-7 475093-95-9 475093-97-1 475094-03-2 475094-84-9 475105-49-8 475105-51-2

RL: CAT (Catalyst use); USES (Uses)

(random or block copolymers produced using metal complex catalysts)

IT ~~9003-55-8P~~, Butadiene-Styrene copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)

(random or block copolymers produced using metal complex catalysts)

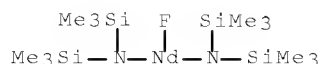
IT ~~475092-63-8~~ ~~475092-65-0~~ ~~475092-68-3~~ ~~475093-02-8~~ ~~475093-04-0~~ ~~475093-07-3~~ ~~475093-09-5~~ ~~475093-57-3~~ ~~475093-60-8~~ ~~475093-62-0~~ ~~475093-64-2~~ ~~475093-66-4~~ ~~475093-68-6~~ ~~475093-71-1~~ ~~475093-73-3~~ ~~475093-85-7~~ ~~475093-89-1~~

RL: CAT (Catalyst use); USES (Uses)

(random or block copolymers produced using metal complex catalysts)

RN 475092-63-8 HCAPLUS

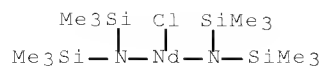
CN Neodymium, fluorobis[1,1,1-trimethyl-N-(trimethylsilyl)silanaminato]- (CA INDEX NAME)



RN 475092-65-0 HCAPLUS

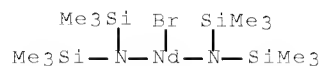
CN Neodymium, chlorobis[1,1,1-trimethyl-N-(trimethylsilyl)silanaminato]- (CA INDEX NAME)





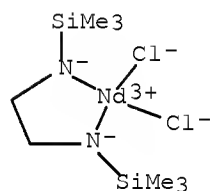
RN 475092-68-3 HCAPLUS

CN Neodymium, bromobis[1,1,1-trimethyl-N-(trimethylsilyl)silanaminato]- (CA INDEX NAME)



RN 475093-02-8 HCAPLUS

CN Neodymate(1-), [N,N'-bis(trimethylsilyl)-1,2-ethanediaminato(2-)- $\kappa\text{N},\kappa\text{N}'$ ]dichloro-, sodium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)

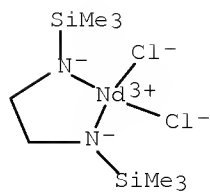


● Cl<sup>-</sup>

●2 Na<sup>+</sup>

RN 475093-04-0 HCAPLUS

CN Neodymate(1-), [N,N'-bis(trimethylsilyl)-1,2-ethanediaminato(2-)- $\kappa\text{N},\kappa\text{N}'$ ]dichloro-, potassium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)



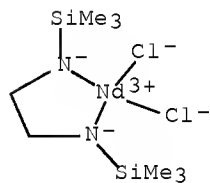
RN 475093-07-3 HCAPLUS  
 CN Magnesium(1+), chloro-, (T-4)-[N,N'-bis(trimethylsilyl)-1,2-ethanediaminato(2-)-κN,κN']dichloroneodymate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 475093-06-2

CMF C8 H22 Cl2 N2 Nd Si2

CCI CCS

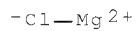


CM 2

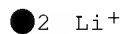
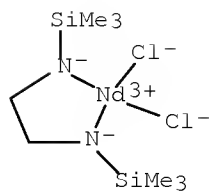
CRN 32195-53-2

CMF Cl Mg

CCI CCS

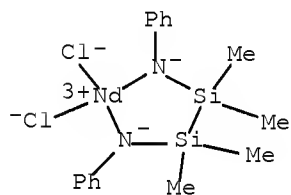


RN 475093-09-5 HCAPLUS  
 CN Neodymate(1-), [N,N'-bis(trimethylsilyl)-1,2-ethanediaminato(2-)-κN,κN']dichloro-, lithium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)



RN 475093-57-3 HCAPLUS

CN Neodymate(1-), dichloro[1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-disilanediaminato(2-)-κN,κN']-, potassium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)



RN 475093-60-8 HCAPLUS

CN Magnesium(1+), chloro-, (T-4)-dichloro[1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-disilanediaminato(2-)-κN,κN']neodymate(1-) (9CI) (CA INDEX NAME)

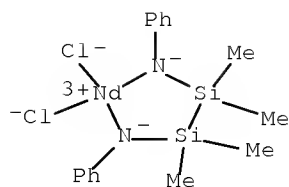
CM 1

CRN 475093-59-5

CMF C16 H22 Cl2 N2 Nd Si2

CCI CCS

10/599,651

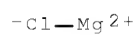


CM 2

CRN 32195-53-2

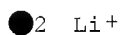
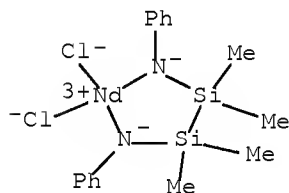
CMF Cl Mg

CCI CCS



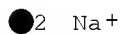
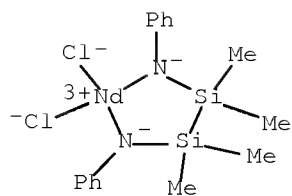
RN 475093-62-0 HCAPLUS

CN Neodymate(1-), dichloro[1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-disilanediaminato(2-)- $\kappa\text{N},\kappa\text{N}'$ ]-, lithium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)



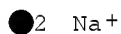
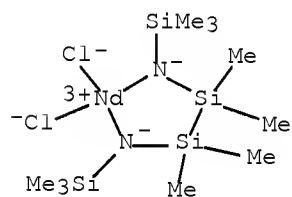
RN 475093-64-2 HCAPLUS

CN Neodymate(1-), dichloro[1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-disilanediaminato(2-)- $\kappa\text{N},\kappa\text{N}'$ ]-, sodium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)



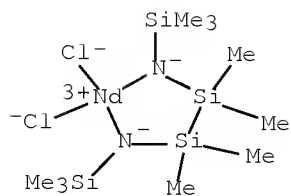
RN 475093-66-4 HCAPLUS

CN Neodymate(1-), dichloro[1,1,2,2-tetramethyl-N,N'-bis(trimethylsilyl)-1,2-disilanediaminato(2-)-κN,κN']-, sodium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)

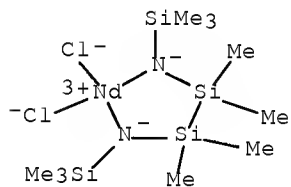


RN 475093-68-6 HCAPLUS

CN Neodymate(1-), dichloro[1,1,2,2-tetramethyl-N,N'-bis(trimethylsilyl)-1,2-disilanediaminato(2-)-κN,κN']-, potassium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)

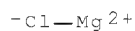


RN 475093-71-1 HCAPLUS  
 CN Magnesium(1+), chloro-, (T-4)-dichloro[1,1,2,2-tetramethyl-N,N'-bis(trimethylsilyl)-1,2-disilanediaminato(2-)-κN,κN']neodymate(1-) (9CI) (CA INDEX NAME)  
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 CRN 475093-70-0  
 CMF C10 H30 Cl2 N2 Nd Si4  
 CCI CCS

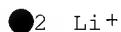
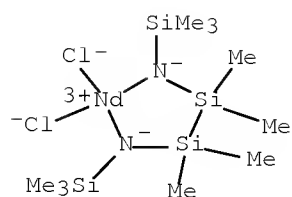


CM 2

CRN 32195-53-2  
 CMF Cl Mg  
 CCI CCS

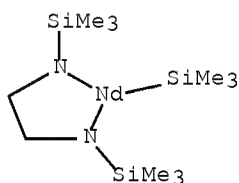


RN 475093-73-3 HCAPLUS  
 CN Neodymate(1-), dichloro[1,1,2,2-tetramethyl-N,N'-bis(trimethylsilyl)-1,2-disilanediaminato(2-)-κN,κN']-, lithium chloride (1:2:1), (T-4)- (9CI) (CA INDEX NAME)



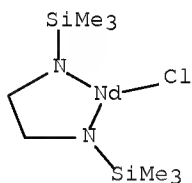
RN 475093-85-7 HCAPLUS

CN Neodymium, [N,N'-bis(trimethylsilyl)-1,2-ethanediaminato(2-)-  
κN,κN'] (trimethylsilyl)- (9CI) (CA INDEX NAME)



RN 475093-89-1 HCAPLUS

CN Neodymium, [N,N'-bis(trimethylsilyl)-1,2-ethanediaminato(2-)-  
κN,κN']chloro- (9CI) (CA INDEX NAME)



IT 9003-55-8P, Butadiene-Styrene  
copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)  
(random or block copolymers produced using metal complex  
catalysts)

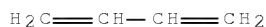
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

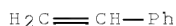
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 12 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:923891 HCAPLUS Full-text

DOCUMENT NUMBER: 136:55057

TITLE: Use of an organosilicon compound bearing at least an activated double ethylene bond as coupling agent in rubber compositions comprising a white filler

INVENTOR(S): Barruel, Pierre; Guennouni, Nathalie; Parisot, Herve; Tardivat, Jean-Claude

PATENT ASSIGNEE(S): Rhodia Chimie, Fr.

SOURCE: PCT Int. Appl., '71 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096443	A1	20011220	WO 2001-FR1856	20010614
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
FR 2810329	A1	20011221	FR 2000-7696	20000616
FR 2810329	B1	20021206		
CA 2412786	A1	20011220	CA 2001-2412786	20010614
EP 1299451	A1	20030409	EP 2001-945437	20010614
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
BR 2001011844	A	20030923	BR 2001-11844	20010614
JP 2004503635	T	20040205	JP 2002-510575	20010614
MX 2002PA12507	A	20040910	MX 2002-PA12507	20021216



10/599,651

US 20040059049	A1	20040325	US 2003-311542	20030911
PRIORITY APPLN. INFO.:			FR 2000-7696	A 20000616
			WO 2001-FR1856	W 20010614

ED Entered STN: 21 Dec 2001

AB The invention concerns the use of a compound comprising a polyfunctional polyorganosiloxane (POS) bearing  $\geq 1$  hydroxyl radical and/or  $\geq 1$  alkoxy radical and  $\geq 1$  activated double ethylene bond, as coupling agent (white filler-elastomer) in rubber compns. based on isoprene elastomer(s) comprising a white filler as reinforcing filler. The invention also concerns isoprene elastomer compns. obtained by using said coupling agent, and elastomeric articles having a body comprising said compns. The coupling agent is a compound comprising a POS with similar or different units of formula  $(R)aYbXcSiO[4 - (a + b + c)]/2$  wherein: (1) R is a monovalent hydrocarbon group; (2) Y represents a OH or an alkoxy; (3) X is a function comprising an activated double ethylene bond selected among a maleimide, isomaleimide, maleamic acid, maleamic ester and acrylamide function; (4)  $a = 0, 1, 2$  or  $3$ ,  $b = 0, 1, 2$  or  $3$ ,  $c = 0$  or  $1$ , the sum  $a + b + c$  is different from  $0$  and  $\leq 3$ ; (5) function Y rate is  $\geq 0.8$ , (6) function X rate is  $\geq 0.4$  (rate = number of functions for 100 Si atoms). Adding 88.7 g hexamethylcyclotrisilazane in PhMe in 2 h 25 min to PhMe containing 320 g N-[3-(diethoxymethylsilyl)propyl]maleamic acid and 168.2 g  $ZnCl_2$  at  $72^\circ$  and heating the reaction mixture 15 h at  $75^\circ$  gave a coupling agent containing 73.7%  $EtO[SiMe[(CH_2)3R]O]1.75(SiMe_2O)1.4[SiMe[(CH_2)3NHCOCH:CHCO_2H-cis]O]0.05Et$  (I), 23.1%  $(EtO)_2MeSi(CH_2)3R$  ( $R =$  maleimido), 0.7%  $(EtO)_2MeSi(CH_2)3NHCOCH:CHCO_2H-cis$ , and 2.5% cyclic derivative of I.

IC ICM C08G077-26

ICS C08G077-388; C08K005-5425; C08K005-544; C08L021-00

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST activated ethylenic group contg polysiloxane coupling agent; diethoxymethylsilylpropylmaleamic acid hexamethylcyclotrisilazane copolymer manuf coupling agent filled rubber; isoprene rubber white filler coupling agent polysiloxane

IT Butadiene rubber, uses

Butyl rubber, uses

Neoprene rubber, uses

Nitrile rubber, uses

Styrene-butadiene rubber, uses

RL: POF (Polymer in formulation); USES (Uses)

(addnl. rubber; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)

IT Synthetic rubber, uses

RL: POF (Polymer in formulation); USES (Uses)

(butadiene-isoprene-styrene; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)

IT Synthetic rubber, uses

RL: POF (Polymer in formulation); USES (Uses)

(butadiene-isoprene; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)

IT Isoprene rubber, uses

Isoprene-styrene rubber

RL: POF (Polymer in formulation); USES (Uses)

(isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)

IT 9003-17-2

RL: POF (Polymer in formulation); USES (Uses)

(butadiene rubber, addnl. rubber; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)

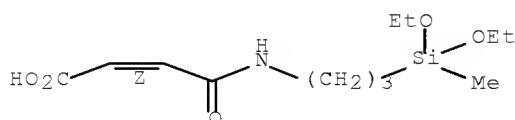
- IT 75-77-4DP, Trimethylchlorosilane, reaction products with N-[(diethoxymethylsilyl)propyl]maleamic acid-hexamethylcyclotrisilazane copolymers 31692-79-2DP, Dimethylsilanediol homopolymer, sru hydroxy-terminated, reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 31900-57-9DP, Dimethylsilanediol homopolymer, hydroxy-terminated, reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 158687-37-7DP, Poly[oxy[(3-aminopropyl)methylsilylene]], reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 201346-29-4DP, reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 381209-61-6DP, reaction products with trimethylchlorosilane 381209-61-6P 381209-62-7DP, reaction products with adducts of hydroxy-terminated polydimethylsiloxane and Aminopropylmethyldiethoxysilane  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)
- IT 25038-32-8  
RL: POF (Polymer in formulation); USES (Uses)  
(isoprene-styrene rubber, isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)
- IT 25102-52-7, 1,3-Butadiene-isoprene copolymer  
26602-62-0, 1,3-Butadiene-isoprene-styrene copolymer  
RL: POF (Polymer in formulation); USES (Uses)  
(rubber; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)
- IT 9003-55-8  
RL: POF (Polymer in formulation); USES (Uses)  
(styrene-butadiene rubber, addnl. rubber; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)
- IT 381209-61-6DP, reaction products with trimethylchlorosilane 381209-61-6P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)
- RN 381209-61-6 HCAPLUS
- CN 2-Butenoic acid, 4-[[3-(diethoxymethylsilyl)propyl]amino]-4-oxo-, (2Z)-, polymer with 2,2,4,4,6,6-hexamethylcyclotrisilazane (9CI) (CA INDEX NAME)

CM 1

CRN 255819-38-6

CMF C12 H23 N O5 Si

Double bond geometry as shown.

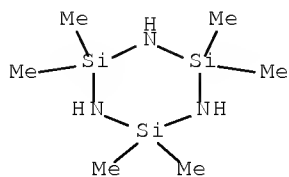


10/599,651

CM 2

CRN 1009-93-4

CMF C6 H21 N3 Si3



RN 381209-61-6 HCAPLUS

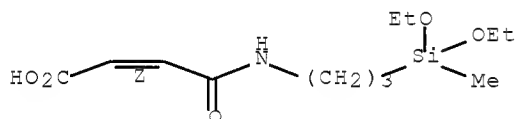
CN 2-Butenoic acid, 4-[[3-(diethoxymethylsilyl)propyl]amino]-4-oxo-, (2Z)-, polymer with 2,2,4,4,6,6-hexamethylcyclotrisilazane (9CI) (CA INDEX NAME)

CM 1

CRN 255819-38-6

CMF C12 H23 N O5 Si

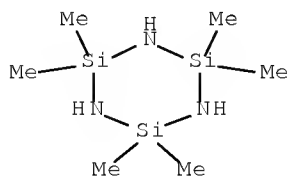
Double bond geometry as shown.



CM 2

CRN 1009-93-4

CMF C6 H21 N3 Si3



IT 9003-55-8

RL: POF (Polymer in formulation); USES (Uses)

(styrene-butadiene rubber, addnl. rubber; isoprene rubber composition containing white fillers and multifunctional polyorganosiloxanes as coupling agents)

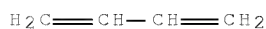
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

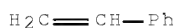
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:923890 HCAPLUS Full-text

DOCUMENT NUMBER: 136:55067

TITLE: Rubber composition for tires containing a multifunctional polyorganosiloxane as coupling agent

INVENTOR(S): Tardivat, Jean-Claude; Pagano, Salvatore; Thonier, Christel; Guennouni, Nathalie

PATENT ASSIGNEE(S): Societe de Technologie Michelin, Fr.; Michelin Recherche et Technique S.A.

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096442	A1	20011220	WO 2001-EP6671	20010613
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2412360	A1	20011220	CA 2001-2412360	20010613
EP 1297055	A1	20030402	EP 2001-947362	20010613
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
BR 2001011734	A	20030527	BR 2001-11734	20010613

JP 2004503634	T	20040205	JP 2002-510574	20010613
CN 100334135	C	20070829	CN 2001-812834	20010613
MX 2002PA12423	A	20030606	MX 2002-PA12423	20021213
US 20030191225	A1	20031009	US 2002-320236	20021216
US 6878768	B2	20050412		
US 20050059773	A1	20050317	US 2004-946188	20040922
US 7186776	B2	20070306		

PRIORITY APPLN. INFO.:

FR 2000-7879	A	20000616
WO 2001-EP6671	W	20010613
US 2002-320236	A1	20021216

ED Entered STN: 21 Dec 2001

AB The invention concerns a sulfur-crosslinkable elastomer composition, for use in the manufacture of tires, comprising at least: (i) an isoprene elastomer, in particular natural rubber; (ii) a reinforcing inorg. filler, in particular silica; and (iii) as coupling agent (white filler/isoprene elastomer), a multifunctional polyorganosiloxane (POS) comprising, grafted on its silicon atoms, in 1 part  $\geq 1$  hydroxyl or hydrolyzable function and on another part  $\geq 1$  group bearing  $\geq 1$  activated ethylenic double bond. Said POS is, in particular, a POS with imide, acid or ester function, whereof the ethylenic double bond is activated by  $\geq 1$  adjacent carbonyl group. This coupling agent produces tires with low rolling resistance and high wear resistance. Adding 51.2 g hexamethylcyclotrisilazane in PhMe in 50 min to PhMe containing 181.8 g N-[3-(diethoxymethylsilyl)propyl]maleamic acid and 94.6 g ZnCl<sub>2</sub> at 90° and heating the reaction mixture 15 h at 80° gave a coupling agent containing 81.5% EtO[SiMe[(CH<sub>2</sub>)<sub>3</sub>R]O]1.8(SiMe<sub>2</sub>O)1.5Et and 18.5% (EtO)<sub>2</sub>MeSi(CH<sub>2</sub>)<sub>3</sub>R (R = maleimido).

IC ICM C08G077-26

ICS C08G077-388; C08K005-5425; C08K005-544; C08L021-00; B60C001-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST carbonyl activated ethylenic group contg polysiloxane coupling agent; diethoxymethylsilylpropylmaleamic acid hexamethylcyclotrisilazane copolymer manuf coupling agent filled rubber; isoprene rubber tire white filler coupling agent polysiloxane

IT Styrene-butadiene rubber, properties

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(SBR compns. containing white fillers and multifunctional polyorganosiloxanes as coupling agents for tires)

IT 31692-79-2DP, Dimethylsilanediol homopolymer, sru hydroxy-terminated, reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 31900-57-9DP, Dimethylsilanediol homopolymer, hydroxy-terminated, reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 158687-37-7DP, Poly[oxy[(3-aminopropyl)methylsilylene]], reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 201346-29-4DP, reaction products with hydroxy-terminated polydimethylsiloxane and N-(methoxycarbonylethylenecarbonyl)succinimide 381209-61-6P 381209-62-7DP, reaction products with adducts of hydroxy-terminated polydimethylsiloxane and aminopropylmethyldiethoxysilane

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(isoprene rubber compns. containing white fillers and multifunctional polyorganosiloxanes as coupling agents for tires)

IT 3003-55-8

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(styrene-butadiene rubber, SBR compns. containing white

10/599,651

fillers and multifunctional polyorganosiloxanes as coupling agents for tires)

IT 381209-61-6P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (isoprene rubber compns. containing white fillers and multifunctional polyorganosiloxanes as coupling agents for tires)

RN 381209-61-6 HCAPLUS

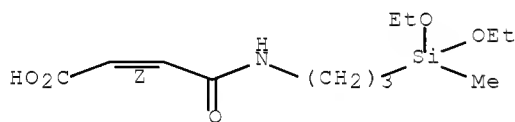
CN 2-Butenoic acid, 4-[[3-(diethoxymethylsilyl)propyl]amino]-4-oxo-, (2Z)-, polymer with 2,2,4,4,6,6-hexamethylcyclotrisilazane (9CI) (CA INDEX NAME)

CM 1

CRN 255819-38-6

CMF C12 H23 N O5 Si

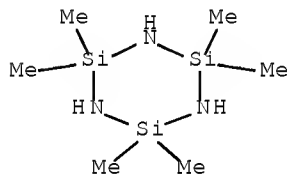
Double bond geometry as shown.



CM 2

CRN 1009-93-4

CMF C6 H21 N3 Si3



IT 9003-55-8

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(~~styrene-butadiene~~ rubber, SBR compns. containing white fillers and multifunctional polyorganosiloxanes as coupling agents for tires)

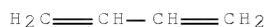
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

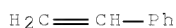
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:137307 HCAPLUS Full-text  
 DOCUMENT NUMBER: 134:194449  
 TITLE: Chemically treating silica fillers with coupling agents and their use in rubber compounds  
 INVENTOR(S): Okel, Timothy A.; Hahn, James R.  
 PATENT ASSIGNEE(S): PPG Industries Ohio, Inc., USA; Dow Corning Corp.  
 SOURCE: PCT Int. Appl., 56 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

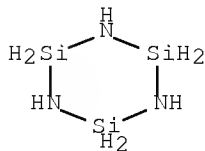
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001012733	A1	20010222	WO 2000-US22711	20000817
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000069159	A	20010313	AU 2000-69159	20000817
EP 1208164	A1	20020529	EP 2000-957560	20000817
EP 1208164	B1	20071024		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003531215	T	20031021	JP 2001-517623	20000817
CN 1312229	C	20070425	CN 2000-813061	20000817
AT 376573	T	20071115	AT 2000-957560	20000817
TW 502054	B	20020911	TW 2000-89116783	20001107
PRIORITY APPLN. INFO.:			US 1999-149757P	P 19990819
			US 1999-172309P	P 19991217
			US 2000-203428P	P 20000510
			US 2000-636308	A 20000811
			WO 2000-US22711	W 20000817

ED Entered STN: 25 Feb 2001

- AB Chemical-treated fillers are made by using a certain combination of functionalizing (coupling) agents of (a) mercaptoorganometallic compound and (b) non-sulfur organometallic compound at ratio  $\geq 0.05:1$  in an aqueous suspension of inorg. oxide, e.g.  $\text{SiO}_2$ , optionally in the presence of surfactant and/or water miscible solvent, having a pH  $\leq 2.5$  and increasing the pH to 3-10 of the suspension after chemical treating the filler. Fillers, e.g., inorg. oxides, were chemical treated to have a C content  $>1\%$ , a mercapto content  $\leq 0.15\%$ , a Silane Conversion Index, SCI,  $\geq 0.3$ , and a Standard Reinforcement Index, SRI,  $\geq 4$ . Compns. such as polymers, cured organic rubber articles, master batches and slurries contain the hydrophobic fillers. Thus,  $\text{SiO}_2$  treated with 3-mercaptopropyltrimethoxysilane and dichlorodimethylsilane (0.17:1) with a surface area 132  $\text{m}^2/\text{g}$ , C content 2.2%, SRI 4.8, SCI 0.55 and pH 6.0, was used in reinforcing rubber.
- IC ICM C09C001-30  
ICS C09C003-08; C09C003-12
- CC 39-9 (Synthetic Elastomers and Natural Rubber)
- IT Butadiene rubber, properties  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(Budene 1207; chemical-treated filler particulate with good dispersibility in rubber)
- IT Styrene-butadiene rubber, properties  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(Solflex 1216; chemical-treated filler particulate with good dispersibility in rubber)
- IT 9003-17-2  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(butadiene rubber, Budene 1207; chemical-treated filler particulate with good dispersibility in rubber)
- IT 56-33-7 75-77-4, Trimethylchlorosilane, uses 75-79-6,  
Methyltrichlorosilane 78-62-6, Dimethyldiethoxysilane 107-46-0,  
Hexamethyldisiloxane 124-70-9, Vinylmethyldichlorosilane 149-74-6,  
Methylphenyldichlorosilane 556-67-2, Octamethylcyclotetrasiloxane  
675-62-7, 3,3,3-Trifluoropropylmethyldichlorosilane 994-49-0,  
Hexaethyldisiloxane 999-97-3, Hexamethyldisilazane 1066-35-9,  
Dimethylchlorosilane 1112-39-6, Dimethyldimethoxysilane 1185-55-3,  
Methyltrimethoxysilane 1719-53-5, Diethyldichlorosilane 1719-58-0,  
Vinyl dimethylchlorosilane 1825-61-2, Trimethylmethoxysilane 1825-62-3,  
Trimethylethoxysilane 1825-65-6, Trimethylbutoxysilane 1873-92-3,  
Allylmethyldichlorosilane 2031-67-6, Methyltriethoxysilane 3901-77-7  
7538-45-6, Mercaptoethyltrimethoxysilane 13682-99-0 14814-09-6  
16522-50-2, Phenylethyldiethoxysilane 16546-47-7,  
Vinyl dimethylmethoxysilane 16635-23-7 18006-13-8 18143-56-1,  
(Mercaptomethyl)dimethylethoxysilane 30102-73-9, 5  
Hexenyldimethylchlorosilane 30817-94-8, Mercaptomethyltrimethoxysilane  
31001-77-1, 3-Mercaptopropylmethyldimethoxysilane 35112-74-4  
40372-72-3 40550-17-2 41453-78-5 41453-79-6 42169-82-4  
53700-41-7 53700-42-8 55161-63-2, (Mercaptomethyl)methyldiethoxysilane  
56706-11-7 58495-78-6 59512-63-9 59512-74-2 60764-83-2  
~~79371-56-5~~ 101820-15-9 115146-43-5,  
Hexenylmethyldichlorosilane 120813-52-7 131108-18-4 139489-51-3  
158053-36-2 180003-66-1 180003-68-3 195512-29-9 204845-87-4  
327025-69-4 327025-71-8 327025-72-9 327025-74-1 327025-75-2  
327025-76-3 327025-77-4 327025-78-5  
RL: MOA (Modifier or additive use); USES (Uses)  
(chemical-treated filler particulate with good dispersibility in rubber)
- IT ~~9003-55-8~~  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(styrene-butadiene rubber, Solflex 1216;  
chemical-treated filler particulate with good dispersibility in rubber)



IT 79371-56-5  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (chemical-treated filler particulate with good dispersibility in rubber)  
 RN 79371-56-5 HCAPLUS  
 CN Cyclotrisilazane, triethenyltrimethyl- (9CI) (CA INDEX NAME)



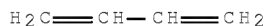
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3 [ D1—CH=CH<sub>2</sub> ]

IT 9003-55-8  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (~~styrene-butadiene~~ rubber, Solflex 1216;  
 chemical-treated filler particulate with good dispersibility in rubber)  
 RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

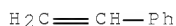
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CRN 106-99-0  
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CM 2

CRN 100-42-5  
 CMF C8 H8



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 15 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1999:279739 HCAPLUS Full-text  
 DOCUMENT NUMBER: 130:312240

TITLE: Process for preparing di(polycyclic amino) dialkoxysilane in the presence of a solvent mixture of an ether and an inert hydrocarbon solvent

INVENTOR(S): Ikai, Shigeru; Sakakibara, Yasuhisa; Fukunaga, Toshifumi

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: Eur. Pat. Appl., 8 pp.  
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 911338	A1	19990428	EP 1998-308617	19981021
EP 911338	B1	20021113		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11222491	A	19990817	JP 1998-318365	19981021
JP 3591338	B2	20041117		
US 5939573	A	19990817	US 1998-176539	19981021
PRIORITY APPLN. INFO.:			JP 1997-288277	A 19971021

ED Entered STN: 06 May 1999

AB A di(polycyclic amino)dialkoxysilane which is of value as an auxiliary catalyst component for polymerizing an  $\alpha$ -olefin to produce an  $\alpha$ -olefin polymer having a high stereoregularity and a broad mol. weight distribution (no data) is prepared by reacting a secondary polycyclic amine compound with an organomagnesium compound in an ether solvent, to produce a polycyclic amido magnesium compound, and reacting the polycyclic amido magnesium compound with a tetraalkoxysilane in a solvent mixture of an ether and an inert hydrocarbon. Thus, a process comprising (1) reacting 0.36 mol perhydroisoquinoline (trans/cis 1/3.2) and 0.42 mol butylmagnesium chloride (in 220 mL iso-Pr ether) in a solvent mixture of 100 mL THF and 300 mL n-heptane, and (2) subsequently reacting with 0.18 mol tetramethoxysilane, generated di(perhydroisoquinolino)dimethoxysilane showing trans-trans/trans-cis/cis-cis 6/36/58, b.p. 181°/1 mmHg, purity 96.6% and yield 90.7%, compared to 95.9% and 82.5%, resp., for a product generated with 450 mL n-heptane and no THF in step (1).

IC ICM C07F007-10  
ICS C07B049-00

ICI C07F007-10, C07D217-08, C07D215-58

CC 35-3 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 29, 67

IT Polymerization catalysts  
Solvents

(preparation of di(polycyclic amino) dialkoxysilane in the presence of a solvent mixture of an ether and an inert hydrocarbon solvent)

IT Amines, preparation

RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silyl; preparation of di(polycyclic amino) dialkoxysilane in the presence of a solvent mixture of an ether and an inert hydrocarbon solvent)

IT Polymerization catalysts

(stereospecific; preparation of di(polycyclic amino) dialkoxysilane in the presence of a solvent mixture of an ether and an inert hydrocarbon solvent)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 16 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:268555 HCAPLUS Full-text

DOCUMENT NUMBER: 128:322372

ORIGINAL REFERENCE NO.: 128:63903a,63906a

TITLE: Polymer mixtures containing polydiorganosiloxane urea-containing components, their manufacture and use thereof

INVENTOR(S): Sherman, Audrey A.; Mazurek, Mieczyslaw H.; Romanko, Walter R.; Hyde, Patrick D.; Wong, Roy; Everaerts, Albert I.

PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co., USA

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9817726	A1	19980430	WO 1997-US17200	19970925
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 6846893	B1	20050125	US 1996-735836	19961023
CA 2268113	A1	19980430	CA 1997-2268113	19970925
AU 9745010	A	19980515	AU 1997-45010	19970925
EP 934360	A1	19990811	EP 1997-943568	19970925
EP 934360	B1	20051123		
R: DE, ES, FR, GB, IT, NL				
BR 9712551	A	19991019	BR 1997-12551	19970925
CN 1234051	A	19991103	CN 1997-199049	19970925
JP 2001508818	T	20010703	JP 1998-519366	19970925
ES 2251033	T3	20060416	ES 1997-943568	19970925
MX 9903661	A	20000131	MX 1999-3661	19990420
KR 2000052713	A	20000825	KR 1999-703511	19990422
PRIORITY APPLN. INFO.:			US 1996-735836	A 19961023
			WO 1997-US17200	W 19970925

ED Entered STN: 11 May 1998

AB Title mixts. comprise (a) an elastomeric thermoplastic, nonelastomeric thermoplastic, or elastomeric thermoset or mixts. thereof, excluding polydiorganosiloxane fluids and (b) a polymer having soft polydiorganosiloxane units, hard polyisocyanate residue units, optionally, soft and/or hard organic polyamine residue units and terminal groups. The hard polyisocyanate residue and the hard polyamine residue comprise less than 50 weight% of the polydiorganosiloxane urea-containing component. The polyisocyanate residue is the polyisocyanate minus the -NCO groups and the polyamine residue is the polyamine minus the -NH<sub>2</sub> groups. The polyisocyanate residue is connected to the polyamine residue by urea linkages. The mixts. are useful for plastics, release surfaces, adhesives, transdermal drug delivery tapes, vibration damping compns., etc.

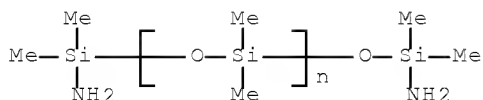
IC ICM C08L083-10

ICS C09J183-10; C09D183-10

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 63

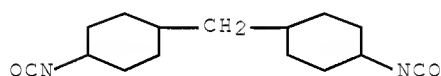
- IT Styrene-butadiene rubber, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (Synpol 1011A; polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)
- IT Isoprene-styrene rubber  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (block, triblock, Kraton 1107; polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)
- IT 105729-79-1 700836-36-8  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (isoprene-styrene rubber, block, triblock, Kraton 1107; polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)
- IT 105729-79-1D, block  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (isoprene-styrene rubber, triblock, Kraton 1107; polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)
- IT 207115-96-6P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polymer mixts. containing polydiorganosiloxane urea-containing components and their manufacture and use)
- IT 9017-68-9, Acrylic acid-isooctyl acrylate copolymer 26221-73-8  
 207240-14-0, HL 2542X 207294-25-5  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)
- IT 9003-55-8  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (styrene-butadiene rubber, Synpol 1011A; polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)
- IT 207115-96-6P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polymer mixts. containing polydiorganosiloxane urea-containing components and their manufacture and use)
- RN 207115-96-6 HCAPLUS
- CN Poly[oxy(dimethylsilylene)],  $\alpha$ -(aminodimethylsilyl)- $\omega$ -[(aminodimethylsilyl)oxy]-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane], block (9CI) (CA INDEX NAME)
- CM 1
- CRN 163002-36-6
- CMF (C2 H6 O Si)n C4 H16 N2 O Si2
- CCI PMS



CM 2

CRN 5124-30-1

CMF C15 H22 N2 O2

IT 9003-55-8

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(styrene-butadiene rubber, Synpol 1011A; polymer mixts. containing polydiorganosiloxane urea-containing components for adhesives)

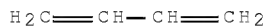
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

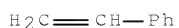
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT:

7

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L81 ANSWER 17 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:782020 HCAPLUS Full-text

DOCUMENT NUMBER: 130:73817

TITLE: Reproducible receptor paper for thermal-transfer printing or electrophotography

INVENTOR(S): Kobayashi, Tomoo; Torigoe, Kaoru; Ezure, Hirakazu

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10319620	A	19981204	JP 1997-132617	19970522
JP 3690063	B2	20050831		

PRIORITY APPLN. INFO.: JP 1997-132617 19970522

ED Entered STN: 14 Dec 1998

AB The paper has a filler-containing resin coating layer and a release layer on the former, where the release layer contains a reactive silane compound and a modified silicone oil having a reactive group in mol. The filler may be an inorg. material such as kaolin, TiO<sub>2</sub>, MgCO<sub>3</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, or CaCO<sub>3</sub>. The paper show excellent durability in repeated printing and toner removal.

IC ICM G03G007-00

ICS G03G007-00; B41J002-32; G03G021-00

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 43

IT Styrene-butadiene rubber, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(JSR 061, ink-receiving layer; reproducible receptor sheet for thermal-transfer printing or electrophotog.)

IT Styrene-butadiene rubber, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(carboxy-containing, JSR 0668, ink-receiving layer; reproducible receptor sheet for thermal-transfer printing or electrophotog.)

IT 681-84-5DP, Tetramethoxysilane, reaction products with hydroxy-containing dimethylpolysiloxane and reactive silanes 2031-67-6DP, Methyltriethoxysilane, reaction products with polysiloxanes and reactive silanes 2530-85-0P 2550-04-1DP, Allyltriethoxysilane, reaction products with polysiloxanes and reactive silanes 2768-02-7DP, Trimethoxyvinylsilane, reaction products with tetraisocyanatosilane and amino-containing polysiloxane 3410-77-3DP, Tetraisocyanatosilane, reaction products with amino-containing polysiloxanes 5587-61-1DP, Methyltriisocyanatosilane, reaction product with Me Ph polysiloxane and reactive silanes 16415-13-7DP, Hexadecyltriethoxysilane, reaction products with polysiloxanes and reactive silanes 16881-77-9DP, Methyltrimethoxysilane, reaction product with Me Ph polysiloxane and reactive silanes 18536-91-9DP, Dodecyltriethoxysilane, reaction product with Me Ph polysiloxane and reactive silanes 26403-67-8DP, KF 99, reaction products with polysiloxanes and reactive silanes 102116-01-8DP, reaction products with hydroxy-containing dimethylpolysiloxane and reactive silanes 136135-22-3DP, reaction products with hydroxy-containing dimethylpolysiloxane and reactive silanes 218129-67-0P 218129-68-1P 218129-69-2P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(release layer; reproducible receptor sheet for thermal-transfer

printing or electrophotog.)

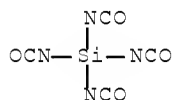
IT 9003-55-8  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (~~styrene-butadiene~~ rubber, JSR 061, ink-receiving  
 layer; reproducible receptor sheet for thermal-transfer printing or  
 electrophotog.)

IT 9003-55-8  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (~~styrene-butadiene~~ rubber, carboxy-containing, JSR  
 0668, ink-receiving layer; reproducible receptor sheet for  
 thermal-transfer printing or electrophotog.)

IT 3410-77-3DP, Tetraisocyanatosilane, reaction products with  
 amino-containing polysiloxanes 5587-61-1DP,  
 Methyltriisocyanatosilane, reaction product with Me Ph polysiloxane and  
 reactive silanes 218129-67-0P 218129-69-2P  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (release layer; reproducible receptor sheet for thermal-transfer  
 printing or electrophotog.)

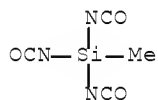
RN 3410-77-3 HCAPLUS

CN Silane, tetraisocyanato- (CA INDEX NAME)



RN 5587-61-1 HCAPLUS

CN Silane, triisocyanatomethyl- (CA INDEX NAME)



RN 218129-67-0 HCAPLUS

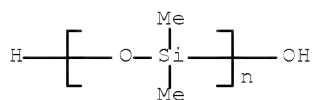
CN Silane, triisocyanatomethyl-, polymer with  
 $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(dimethylsilylene)] and  
 triisocyanatophenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 31692-79-2

CMF (C2 H6 O Si)<sub>n</sub> H2 O

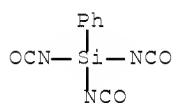
CCI PMS



CM 2

CRN 17883-47-5

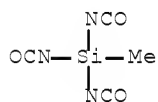
CMF C9 H5 N3 O3 Si



CM 3

CRN 5587-61-1

CMF C4 H3 N3 O3 Si



RN 218129-69-2 HCAPLUS

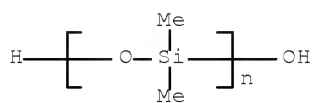
CN Silane, tetraisocyanato-, polymer with  
 $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(dimethylsilylene)],  
 trimethoxymethylsilane and  $\alpha$ -(trimethylsilyl)- $\omega$ -  
 [(trimethylsilyl)oxy]poly[oxy(methylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 31692-79-2

CMF (C2 H6 O Si)<sub>n</sub> H2 O

CCI PMS



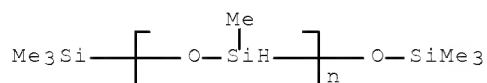


CM 2

CRN 26403-67-8

CMF (C H4 O Si)n C6 H18 O Si2

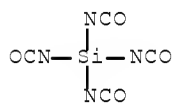
CCI PMS



CM 3

CRN 3410-77-3

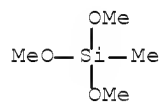
CMF C4 N4 O4 Si



CM 4

CRN 1185-55-3

CMF C4 H12 O3 Si

IT 9003-55-8

RL: TEM (Technical or engineered material use); USES (Uses)

(~~styrene-butadiene~~ rubber, JSR 061, ink-receiving layer; reproducible receptor sheet for thermal-transfer printing or electrophotog.)

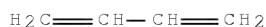
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

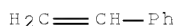
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



RL: TEM (Technical or engineered material use); USES (Uses)  
 (~~styrene-butadiene~~ rubber, carboxy-contg., JSR  
 0668, ink-receiving layer; reproducible receptor sheet for  
 thermal-transfer printing or electrophotog.)

L81 ANSWER 18 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:211160 HCAPLUS Full-text

DOCUMENT NUMBER: 128:308607

ORIGINAL REFERENCE NO.: 128:61173a, 61176a

TITLE: Purification of styrylsilanes by distillation in  
presence of hindered phenols and/or aromatic diaminesINVENTOR(S): Tsuchiya, Katsuyoshi; Yoshimatsu, Shunji; Kizaki,  
Yoichi

PATENT ASSIGNEE(S): Chisso Corp., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10087670	A	19980407	JP 1996-268016	19960918

PRIORITY APPLN. INFO.: JP 1996-268016 19960918

OTHER SOURCE(S): MARPAT 128:308607

ED Entered STN: 15 Apr 1998

AB H2C:CR1C6H4SiR2nX3-n (R1 = H, Me; R2 = Me, Et; X = halo; n = 0-2), useful as  
 materials for silane coupling agents, polysiloxanes, etc., are purified by  
 distillation in the presence of hindered phenols and/or aromatic diamines as  
 polymerization inhibitors. Crude p-styryldimethylchlorosilane was distilled  
 in the presence of 200 ppm 2,6-di-tert-butyl-4-methoxyphenol to show no  
 gelation for 26 h.

IC ICM C07F007-12

CC 29-6 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 35

IT Amines, uses

RL: NUU (Other use, unclassified); USES (Uses)

(diamines, aromatic, polymerization inhibitors; purification of  
styrylsilanes by distillation in presence of hindered phenols and/or  
 aromatic diamines)

IT Distillation

Polymerization inhibitors

(purification of styrylsilanes by distillation in presence of hindered phenols and/or aromatic diamines)

L81 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:52166 HCAPLUS Full-text

DOCUMENT NUMBER: 128:89886

ORIGINAL REFERENCE NO.: 128:17551a,17554a

TITLE: Thermally Stable Silphenylene Vinyl Siloxane Elastomers and Their Blends

AUTHOR(S): Zhu, H. Dennis; Kantor, Simon W.; MacKnight, William J.

CORPORATE SOURCE: Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA, 01003-4530, USA

SOURCE: Macromolecules (1998), 31(3), 850-856

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Jan 1998

AB Vinyl-substituted silphenylene siloxane elastomers (VSPSEs) with variable vinyl content were synthesized using the disilanol-diaminosilane polycondensation method. High-mol.-weight elastomers were obtained by using carefully purified monomers. The polymers were characterized by gel permeation chromatog., differential scanning calorimetry (DSC), and thermogravimetric analyses (TGA). Anal. by <sup>29</sup>Si NMR established that the samples have exactly alternating chemical structures. VSPSEs have low glass transition temps. (Tg's) ranging from -26 to -63 °C. Substitution of the Me group on silicon with Ph increases the Tg as well as the TGA residues in both air and nitrogen. TGA expts. showed that the VSPSEs synthesized in this study have the highest degradation temps. reported so far. The TGA residues at 900 °C increased to 70% in nitrogen and 57% in air as the vinyl content increased. Furthermore, remarkable isothermal weight losses were shown by the VSPSEs. For example, the elastomer with one vinyl group per repeating unit had a weight loss of 0.7% in nitrogen and 3% in air after 5 h at 400 °C. Blends of VSPSEs with conventional styrene-butadiene rubbers (SBR) and also with styrene-butadiene-styrene triblock copolymers (SBS) were prepared using solution blending. DSC studies indicated that these blends were not miscible. Crosslinking the blends broadened the Tgs for the blend constituents indicating a small degree of interfacial phase mixing. Thermal-oxidative stability of the blends is intermediate between that of the VSPSEs and the SBR or SBS.

CC 39-4 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 35

IT Styrene-butadiene rubber, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(blends with silicone rubber; preparation and characterization of thermally stable silphenylene vinyl siloxane elastomers and blends)

IT Styrene-butadiene rubber, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(block, triblock, blends with silicone rubber; preparation and characterization of thermally stable silphenylene vinyl siloxane elastomers and blends)

IT 34056-57-0P, 1,4-Bis(hydroxydimethylsilyl)benzene-

bis(dimethylamino)dimethylsilane copolymer 41205-84-9P

52224-67-6P, 1,4-Bis(hydroxydimethylsilyl)benzene-

bis(dimethylamino)methylphenylsilane copolymer 81523-67-3P

119727-09-2P, 1,4-Bis(hydroxydimethylsilyl)benzene-

bis(dimethylamino)methylvinylsilane copolymer  
134970-80-2P, 1,4-Bis(hydroxydimethylsilyl)benzene-  
 bis(dimethylamino)dimethylsilane-bis(dimethylamino)methylvinylsilane  
copolymer 200932-79-2P,  
 1,4-Bis(hydroxydimethylsilyl)benzene-bis(dimethylamino)dimethylsilane-  
 bis(dimethylamino)methylphenylsilane-bis(dimethylamino)methylvinylsilane  
copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (rubber; preparation and characterization of thermally stable silphenylene  
 vinyl siloxane elastomers and blends)

IT 9003-55-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (styrene-butadiene rubber, blends with silicone  
 rubber; preparation and characterization of thermally stable silphenylene  
 vinyl siloxane elastomers and blends)

IT 106107-54-4P 694491-73-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (styrene-butadiene rubber, block, triblock, blends  
 with silicone rubber; preparation and characterization of thermally stable  
 silphenylene vinyl siloxane elastomers and blends)

IT 34056-57-0P, 1,4-Bis(hydroxydimethylsilyl)benzene-  
 bis(dimethylamino)dimethylsilane copolymer 52224-67-6P

, 1,4-Bis(hydroxydimethylsilyl)benzene-  
 bis(dimethylamino)methylphenylsilane copolymer  
119727-09-2P, 1,4-Bis(hydroxydimethylsilyl)benzene-  
 bis(dimethylamino)methylvinylsilane copolymer  
134970-80-2P, 1,4-Bis(hydroxydimethylsilyl)benzene-  
 bis(dimethylamino)dimethylsilane-bis(dimethylamino)methylvinylsilane  
copolymer 200932-79-2P,  
 1,4-Bis(hydroxydimethylsilyl)benzene-bis(dimethylamino)dimethylsilane-  
 bis(dimethylamino)methylphenylsilane-bis(dimethylamino)methylvinylsilane  
copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (rubber; preparation and characterization of thermally stable silphenylene  
 vinyl siloxane elastomers and blends)

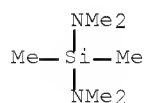
RN 34056-57-0 HCAPLUS

CN Silanol, 1,4-phenylenebis(dimethyl-, polymer with hexamethylsilanediamine  
 (9CI) (CA INDEX NAME)

CM 1

CRN 3768-58-9

CMF C6 H18 N2 Si

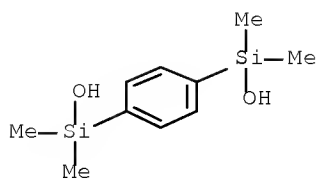


CM 2

CRN 2754-32-7

CMF C10 H18 O2 Si2

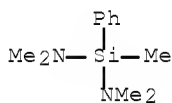
10/599,651



RN 52224-67-6 HCAPLUS  
 CN Silanol, 1,4-phenylenebis(dimethyl-, polymer with  
 N,N,N',N',1-pentamethyl-1-phenylsilanedi-1-amine (9CI) (CA INDEX NAME)

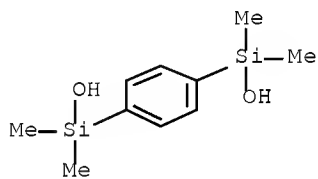
CM 1

CRN 33567-83-8  
 CMF C11 H20 N2 Si



CM 2

CRN 2754-32-7  
 CMF C10 H18 O2 Si2

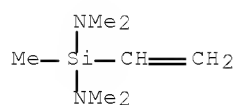


RN 119727-09-2 HCAPLUS  
 CN Silanol, 1,4-phenylenebis(dimethyl-, polymer with  
 1-ethenyl-N,N,N',N',1-pentamethylsilanedi-1-amine (9CI) (CA INDEX NAME)

CM 1

CRN 13368-45-1  
 CMF C7 H18 N2 Si

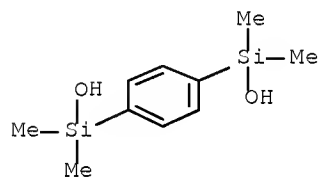
10/599,651



CM 2

CRN 2754-32-7

CMF C10 H18 O2 Si2



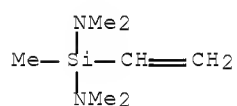
RN 134970-80-2 HCAPLUS

CN Silanol, 1,4-phenylenebis(dimethyl-, polymer with  
1-ethenyl-N,N,N',N',1-pentamethylsilanedi-amine and hexamethylsilanedi-amine  
(9CI) (CA INDEX NAME)

CM 1

CRN 13368-45-1

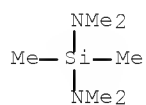
CMF C7 H18 N2 Si



CM 2

CRN 3768-58-9

CMF C6 H18 N2 Si

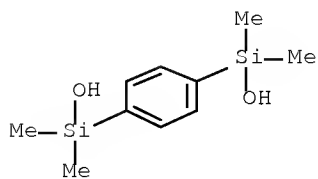


10/599,651

CM 3

CRN 2754-32-7

CMF C10 H18 O2 Si2



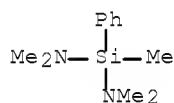
RN 200932-79-2 HCAPLUS

CN Silanol, 1,4-phenylenebis(dimethyl-, polymer with  
1-ethenyl-N,N,N',N',1-pentamethylsilanedi-amine, hexamethylsilanedi-amine  
and N,N,N',N',1-pentamethyl-1-phenylsilanedi-amine (9CI) (CA INDEX NAME)

CM 1

CRN 33567-83-8

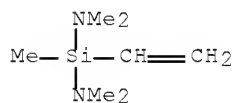
CMF C11 H20 N2 Si



CM 2

CRN 13368-45-1

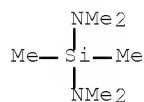
CMF C7 H18 N2 Si



CM 3

CRN 3768-58-9

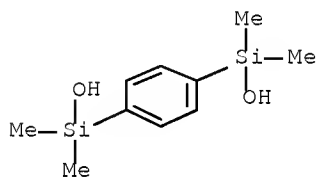
CMF C6 H18 N2 Si



CM 4

CRN 2754-32-7

CMF C10 H18 O2 Si2

IT 9003-55-8F

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (styrene-butadiene rubber, blends with silicone  
 rubber; preparation and characterization of thermally stable silphenylene  
 vinyl siloxane elastomers and blends)

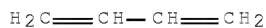
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



REFERENCE COUNT:

12

THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



L81 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:668134 HCAPLUS Full-text

DOCUMENT NUMBER: 127:279440

ORIGINAL REFERENCE NO.: 127:54563a,54566a

TITLE: Silica-reinforced rubber composition and tire with tread

INVENTOR(S): Cohen, Martin Paul; Lawrence, John Pennington; Losey, Cheryl Ann

PATENT ASSIGNEE(S): Goodyear Tire and Rubber Co., USA

SOURCE: Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 796891	A1	19970924	EP 1997-104026	19970311
R: DE, FR, GB, IT				
US 5719207	A	19980217	US 1996-617245	19960318
CA 2181428	A1	19970919	CA 1996-2181428	19960717
BR 9701321	A	19981110	BR 1997-1321	19970317
JP 10025368	A	19980127	JP 1997-64890	19970318
PRIORITY APPLN. INFO.:			US 1996-617245	A 19960318

OTHER SOURCE(S): MARPAT 127:279440

ED Entered STN: 22 Oct 1997

AB The title composition comprises  $\geq 1$  elastomer, silica, a silica coupler, a silylating agent and, optionally, carbon black. Thus, a sample prepared from composition containing styrene-butadiene copolymer rubber 25, isoprene-butadiene copolymer rubber 45, Budene-1254 20, natural rubber 10, processing oils and waxes 24.9, ZnO 2.5, fatty acid 3, antioxidants 3, Z 1165MP 80, X 50S (coupling agent) 12.8, N,N'-bis(trimethylsilyl)urea (I) 3, S 1.4 and accelerators 3.7 phr had 300% modulus 11.7 MPa, rebound (100°) 62, abrasion resistance (relative weight loss) 104, and viscosity uncured (Mooney 1+1.5, 100°) 52 (productive mixed elastomer composition), vs. 10.1, 60, 108 and 55 for similar composition without I.

IC ICM C08K005-54

ICS C08L021-00; B60C001-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST silica reinforced rubber compd tire tread; urea bistrimethylsilyl silylation agent tire rubber; SBR compd silica reinforced tire tread; isoprene butadiene rubber compd tire tread

IT Synthetic rubber, properties

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(butadiene-isoprene; silica reinforced rubber composition and tire with tread)

IT Butadiene rubber, properties

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(of cis-1,4-configuration, Budene 1254; silica reinforced rubber composition

and tire with tread)

IT Natural rubber, properties

Styrene-butadiene rubber, properties

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(silica reinforced rubber composition and tire with tread)

IT 18297-63-7, N,N'-Bis(trimethylsilyl)urea

10/599,651

RL: MOA (Modifier or additive use); USES (Uses)

(silylating agent; silica reinforced rubber composition and tire with tread)

IT 9003-55-8

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(~~styrene-butadiene~~ rubber, silica reinforced rubber composition and tire with tread)

IT 9003-17-2

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(cis-1,4-~~Butadiene~~ rubber, Budene 1254; silica reinforced rubber composition and tire with tread)

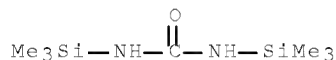
IT 18297-63-7, N,N'-Bis(trimethylsilyl)urea

RL: MOA (Modifier or additive use); USES (Uses)

(silylating agent; silica reinforced rubber composition and tire with tread)

RN 18297-63-7 HCAPLUS

CN Urea, N,N'-bis(trimethylsilyl)- (CA INDEX NAME)



IT 9003-55-8

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(~~styrene-butadiene~~ rubber, silica reinforced rubber composition and tire with tread)

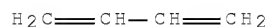
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

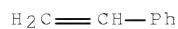
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



L81 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:219527 HCAPLUS Full-text

DOCUMENT NUMBER: 120:219527

ORIGINAL REFERENCE NO.: 120:38997a,39000a

TITLE: Thermochromic polymer compositions

INVENTOR(S): Kuwano, Atsushi; Watanabe, Itsuo; Taketazu, Jun;  
Yamada, Mitsuo

PATENT ASSIGNEE(S): Hitachi Chemical Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05239266	A	19930917	JP 1992-38283	19920226
EP 527454	B1	20011107	EP 1992-113524	19920807
R: DE, FR, GB				
PRIORITY APPLN. INFO.:			JP 1991-198174	A 19910808
			JP 1991-198175	A 19910808
			JP 1991-345072	A 19911226
			JP 1992-38283	A 19920226
			JP 1992-96929	A 19920417
			JP 1992-103402	A 19920423

OTHER SOURCE(S): MARPAT 120:219527

ED Entered STN: 30 Apr 1994

AB The title compns. with high solvent-solubility contain polymers obtained from diene monomers and/or aromatic vinyl monomers and tetraazaporphyrins containing central metals having 2 substituents. Thus, a mixture of 10 parts cis-polybutadiene and 1 part bis(tributylsiloxy)silicon tetrakis(decylthio)naphthalocyanine in 490 parts MePh was spin-coated on a glass plate to obtain a 400-nm film showing maximum absorbance at 790 nm (30°) and 830 nm (100°).

IC ICM C08L009-00

ICS C08K005-3475; C08L047-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

ST thermochromic vinyl polymer film; butylsiloxy-silicon decylthio naphthalocyanine vinyl polymer film; diene polymer film thermochromic; azaporphyrin vinyl polymer film thermochromic; butadiene polymer film thermochromic

IT Rubber, butadiene-styrene, miscellaneous

RL: MSC (Miscellaneous)

(films, containing tetraazaporphyrins, with thermochromic properties, Tufprene)

IT 122342-78-3, Bis(tributylsiloxy)silicontetrakis(decylthio)naphthalocyanine 122342-93-2,

Bis(triethylsiloxy)silicon tetrakis(decylthio)naphthalocyanine

RL: USES (Uses)

(diene polymer or vinyl polymer films containing, with thermochromic properties)

IT 9003-53-6, Polystyrene

RL: USES (Uses)

(films, containing tetraazaporphyrins, with thermochromic properties)

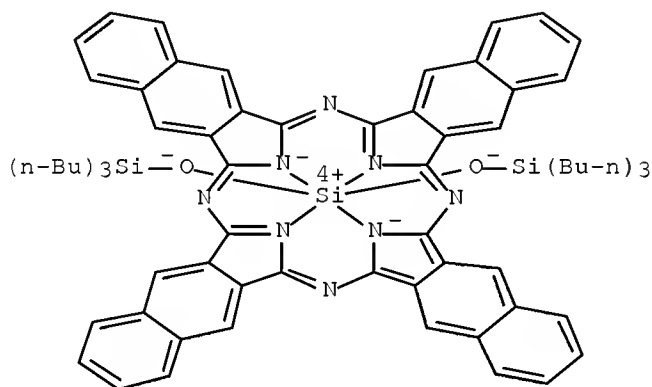
IT 9003-55-8

RL: USES (Uses)

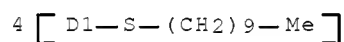
(rubber, films, containing tetraazaporphyrins, with thermochromic properties, Tufprene)

IT 122342-78-3, Bis(tributylsiloxy)silicon  
 tetrakis(decylthio)naphthalocyanine 122342-93-2,  
 Bis(triethylsiloxy)silicon tetrakis(decylthio)naphthalocyanine  
 RL: USES (Uses)  
 (diene polymer or vinyl polymer films containing, with thermochromic  
 properties)  
 RN 122342-78-3 HCAPLUS  
 CN Silicon, [C,C,C,C-tetrakis(decylthio)-37H,39H-tetranaphtho[2,3-b:2',3'-  
 g:2'',3''-1:2''',3'''-q]porphyrazinato(2-)-  
 κN37,κN38,κN39,κN40]bis(tributylsilanolato)- (9CI)  
 (CA INDEX NAME)

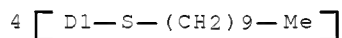
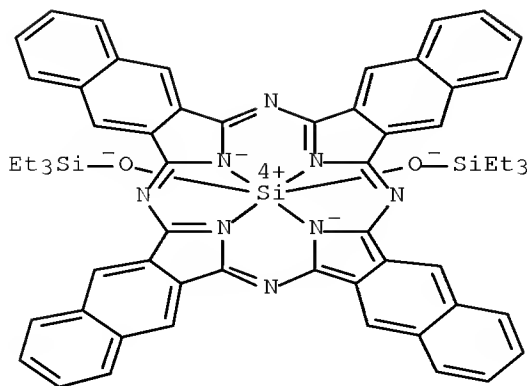
PAGE 1-A



PAGE 2-A



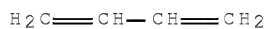
RN 122342-93-2 HCAPLUS  
 CN Silicon, [C,C,C,C-tetrakis(decylthio)-37H,39H-tetranaphtho[2,3-b:2',3'-  
 g:2'',3''-1:2''',3'''-q]porphyrazinato(2-)-  
 κN37,κN38,κN39,κN40]bis(triethylsilanolato)- (9CI)  
 (CA INDEX NAME)



IT 9003-55-8  
 RL: USES (Uses)  
 (rubber, films, containing tetraazaporphyrins, with thermochromic properties, Tufprene)  
 RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

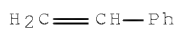
CM 1

CRN 106-99-0  
 CMF C4 H6



CM 2

CRN 100-42-5  
 CMF C8 H8



DOCUMENT NUMBER: 117:235655  
 ORIGINAL REFERENCE NO.: 117:40759a,40762a  
 TITLE: Durable joint sheets with no seizing on contact surfaces  
 INVENTOR(S): Sano, Ryoichi; Nakano, Kenji  
 PATENT ASSIGNEE(S): Nippon Valqua Industries Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04139234	A	19920513	JP 1990-261270	19900928
PRIORITY APPLN. INFO.:			JP 1990-261270	19900928

ED Entered STN: 13 Dec 1992

AB The title sheets comprise fibers and rubbers with at least a portion of the active H on the sheet surface being substituted by Si-containing groups. A 1.5 mm-thick sheet comprising SBR 15, S-ZnO 5, aramid 15, wollastonite 30, and clay-talc 35% was immersed in an EtOAc solution of 3:3:4 butoxysilyl triisocyanate-tetraisocyanatosilane-triethylsilyl isocyanate for 10 s to give a joint sheet.

IC ICM C08J007-12  
ICS C08J007-04

CC 39-15 (Synthetic Elastomers and Natural Rubber)

IT Rubber, butadiene-styrene, uses  
 Rubber, nitrile, uses  
 RL: USES (Uses)  
 (aramid-containing joint sheets, silane-treated, durable, seizing-resistant)

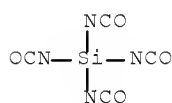
IT 3410-77-3, Tetraisocyanatosilane 18296-10-1 89548-85-6  
 RL: USES (Uses)  
 (aramid-rubber joint sheets treated with, durable, seizing-resistant)

IT 9003-18-3 9003-55-3  
 RL: USES (Uses)  
 (rubber, aramid-containing joint sheets, silane-treated, durable, seizing-resistant)

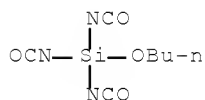
IT 3410-77-3, Tetraisocyanatosilane 89548-85-6  
 RL: USES (Uses)  
 (aramid-rubber joint sheets treated with, durable, seizing-resistant)

RN 3410-77-3 HCAPLUS

CN Silane, tetraisocyanato- (CA INDEX NAME)



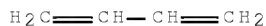
RN 89548-85-6 HCAPLUS  
 CN Silane, butoxytriisocyanato- (CA INDEX NAME)



IT 9003-55-8  
 RL: USES (Uses)  
 (rubber, aramid-containing joint sheets, silane-treated, durable,  
 seizing-resistant)  
 RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

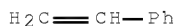
CM 1

CRN 106-99-0  
 CMF C4 H6



CM 2

CRN 100-42-5  
 CMF C8 H8

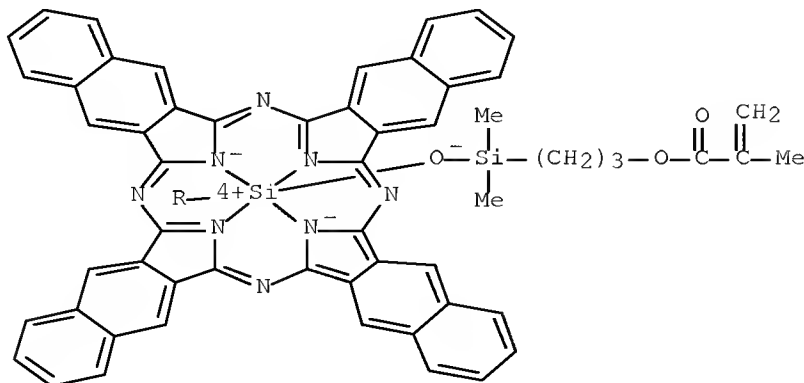


L81 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1991:52968 HCAPLUS Full-text  
 DOCUMENT NUMBER: 114:52968  
 ORIGINAL REFERENCE NO.: 114:8961a, 8964a  
 TITLE: Erasable organic optical recording medium and  
 reversible optical recording and erasing  
 INVENTOR(S): Omichi, Takahiro; Kawaguchi, Takeyuki  
 PATENT ASSIGNEE(S): Teijin Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

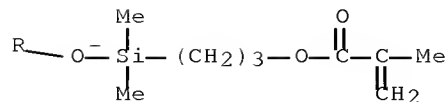
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 02187390	A	19900723	JP 1989-5889	19890117
PRIORITY APPLN. INFO.:			JP 1989-5889	19890117
ED Entered STN: 09 Feb 1991				

- AB The title medium comprises a reversible organic medium having resinous state at low temperature and rubber state at high temperature and a colorant with high reflection property, in which, information is recorded by irradiation of strong laser beam at the absorption wavelength of the colorant to form a bump in rapid heating and cooling and the record is erased by irradiation of weak laser beam to reduce the bump by transformation of the resin into rubber state in slow heating and cooling. Thus, a composition comprising Asmer (SBR resin), NIR 12 (V phthalocyanine dye), and toluene was applied onto a glass support and dried to give a coating, which was irradiated by 830-nm laser at 10 mW to create a bump and irradiated by the laser beam at 7 mW to reduce the bump.
- IC ICM B41M005-26  
ICS G11B007-00; G11B007-24
- CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST erasable org optical recording medium; laser irradsn org recording material; SBR rubber reversible optical recording material; butadiene styrene copolymer optical recording; vanadium phthalocyanine erasable recording material
- IT 13930-88-6 131152-43-7, Bis(3-methacryloyloxypropylenedimethylsiloxy)siliconnaphthalocyanine  
RL: USES (Uses)  
(colorant, for erasable optical recording material from resin)
- IT 9003-55-8, Butadiene-styrene copolymer  
RL: USES (Uses)  
(shape-memory, Asmer, for erasable optical recording material, laser-absorbing colorant in)
- IT 131152-43-7, Bis(3-methacryloyloxypropylenedimethylsiloxy)siliconnaphthalocyanine  
RL: USES (Uses)  
(colorant, for erasable optical recording material from resin)
- RN 131152-43-7 HCAPLUS
- CN Silicon, bis[3-(hydroxydimethylsilyl)propyl 2-methyl-2-propenoato][37H,39H-tetranaphtho[2,3-b:2',3'-g:2'',3'''-1:2''',3'''-q]porphyrazinato(2-)-N37,N38,N39,N40]-, (OC-6-12)- (9CI) (CA INDEX NAME)

PAGE 1-A







IT 9003-55-8, Butadiene-styrene copolymer

RL: USES (Uses)

(shape-memory, Asmer, for erasable optical recording material,  
laser-absorbing colorant in)

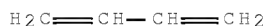
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



L81 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:141430 HCAPLUS Full-text

DOCUMENT NUMBER: 112:141430

ORIGINAL REFERENCE NO.: 112:23889a,23892a

TITLE: Surface-treating agents for polymer articles

INVENTOR(S): Fukawa, Michihiro; Yasukawa, Mitsutoshi

PATENT ASSIGNEE(S): Shinko Giken K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 01141909	A	19890602	JP 1987-299708	19871130
JP 2631113	B2	19970716		
PRIORITY APPLN. INFO.:			JP 1987-299708	19871130

ED Entered STN: 13 Apr 1990

AB The agents, storage-stable and applicable with good adhesion to rubbers and plastics for surface lubricity and release effect without blooming, comprise 1-95% silyl isocyanates and 1-80% curable polyesters. Thus, a 20 volume% solution of a polyester in 1:1 MEK-toluene and a 10 volume% EtOAc solution of a 1:1:1 EtOSi(NCO)3-Si(NCO)4-Me3SiNCO mixture were mixed 3:5 to give a coating, which was stable for 60 days. A nitrile rubber sheet dipped in the coating for 30 s and dried at room temperature for 2 h showed good adhesion and lubricity and no bleeding.

IC ICM C08G018-42

ICA C08L075-04

CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 38, 39

IT Polymers, uses and miscellaneous  
Rubber, ~~butadiene-styrene~~, uses and miscellaneous  
Rubber, butyl, uses and miscellaneous  
Rubber, neoprene, uses and miscellaneous  
Rubber, nitrile, uses and miscellaneous  
RL: USES (Uses)  
(coatings for, mixts. of curable polyesters and silyl isocyanates as, for lubricity and release properties)

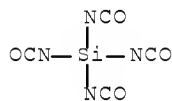
IT 1118-02-1, Trimethylsilyl isocyanate 3410-77-3,  
Tetraisocyanatosilane 18243-45-3  
RL: USES (Uses)  
(mixts. with curable polyesters, coatings, storage-stable, for rubbers and plastics, for lubricity and release properties)

IT 9003-18-3 9003-55-3 9010-85-9 9010-98-4  
RL: USES (Uses)  
(rubber, coatings for, mixts. of curable polyesters and silyl isocyanates as, for lubricity and release properties)

IT 3410-77-3, Tetraisocyanatosilane 18243-45-3  
RL: USES (Uses)  
(mixts. with curable polyesters, coatings, storage-stable, for rubbers and plastics, for lubricity and release properties)

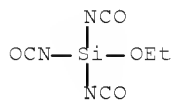
RN 3410-77-3 HCAPLUS

CN Silane, tetraisocyanato- (CA INDEX NAME)



RN 18243-45-3 HCAPLUS

CN Silane, ethoxytriisocyanato- (CA INDEX NAME)



IT 9003-55-8

RL: USES (Uses)

(rubber, coatings for, mixts. of curable polyesters and silyl  
isocyanates as, for lubricity and release properties)

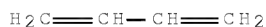
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



L81 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:236721 HCAPLUS Full-text

DOCUMENT NUMBER: 112:236721

ORIGINAL REFERENCE NO.: 112:39935a,39938a

TITLE: Modification of diene rubbers using organosilicon or  
organotin halides and organic nitrogen- or  
phosphorus-containing compounds

INVENTOR(S): Imai, Akio; Seki, Tomoaki; Yamamoto, Keisaku

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 341496	A2	19891115	EP 1989-107577	19890426
EP 341496	A3	19900328		
EP 341496	B1	19931020		
R: DE, FR, GB, IT, NL				
JP 01278501	A	19891108	JP 1988-109454	19880502
JP 01284502	A	19891115	JP 1988-114468	19880510
JP 01284503	A	19891115	JP 1988-114469	19880510
JP 01284504	A	19891115	JP 1988-115372	19880512
JP 01284505	A	19891115	JP 1988-115373	19880512
CA 1338805	C	19961217	CA 1989-597880	19890426
US 5128416	A	19920707	US 1990-581163	19900905
US 5219938	A	19930615	US 1992-848095	19920309

## PRIORITY APPLN. INFO.:

JP 1988-109454	A	19880502
JP 1988-114468	A	19880510
JP 1988-114469	A	19880510
JP 1988-115372	A	19880512
JP 1988-115373	A	19880512
US 1989-343558	B1	19890427
US 1990-581163	A3	19900905

ED Entered STN: 23 Jun 1990

AB Modified diene rubbers, having increased impact resilience, reduced low-temperature hardness, and improved processability, and useful for tires and other industries, are manufactured by reacting a living diene polymer with (A)  $\text{RAMXb}$  ( $\text{R}$  = alkyl, alkenyl, cycloalkenyl, or aryl;  $\text{M}$  = Si or Sn;  $\text{X}$  = halogen;  $\text{a}$  = 0-2; and  $\text{b}$  = 2-4; and (B)  $\geq 1$  of a nitro compound, a phosphoryl chloride compound  $\text{R1(R2NP(O)ClN(R3)R4)}$  ( $\text{R1}$ ,  $\text{R2}$ ,  $\text{R3}$ , and  $\text{R4}$  = alkyl), an aminoalkylsilane, an acrylamide derivative, and an aminovinylsilane derivative. Thus, 1000 g 1,3-butadiene solution in 4300 g hexane was polymerized under N in the presence of 40 mmol ethylene glycol di-Et ether and 6.0 mmol n-BuLi solution in hexane at 50° for 1 h. The reaction mixture was reacted with 0.75 mmol  $\text{SiCl}_4$  at 50° for 30 min, treated with 1.5 mmol p-chloronitrobenzene, stirred with MeOH, mixed with 2,6-di-tert-butyl-p-cresol, and dried under reduced pressure at 60°. The modified rubber had Mooney viscosity ( $\text{ML1+4}$  100°) 81, compared with 77 for a similar rubber modified without  $\text{SiCl}_4$ .

IC ICM C08C019-42

CC 39-4 (Synthetic Elastomers and Natural Rubber)

ST living polybutadiene reaction silicon chloride;  
butadiene rubber reaction chloronitrobenzene; nitro compd reaction  
 diene rubber; tin compd reaction living polybutadiene

IT Rubber, butadiene, compoundsRubber, butadiene-styrene, compounds

RL: IMF (Industrial manufacture); PREP (Preparation)

(reaction products, with silicon or tin compds. and organic nitrogen or  
 phosphorus-containing compds., preparation of, with improved processability

and

phys. properties)

IT 76-06-2, Chloropicrin 100-00-5, p-Chloronitrobenzene 1605-65-8,  
 Bis(dimethylamino)phosphoryl chloride 3845-76-9, N,N-Dimethylaminopropyl  
 acrylamide 5292-45-5 13368-45-1,  
 Bis(dimethylamino)methylvinylsilane 82925-57-3

RL: USES (Uses)

(diene rubbers terminated by, for improved processability and phys.  
 properties)

IT 9003-17-2P 9003-55-8P

RL: IMF (Industrial manufacture); PREP (Preparation)

(rubber, reaction products, with silicon or tin compds. and organic  
 nitrogen or phosphorus-containing compds., preparation of, with improved  
 processability and phys. properties)

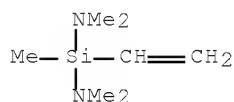
IT 13368-45-1, Bis(dimethylamino)methylvinylsilane

RL: USES (Uses)

(diene rubbers terminated by, for improved processability and phys.  
 properties)

RN 13368-45-1 HCAPLUS

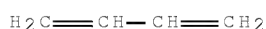
CN Silanediimine, 1-ethenyl-N,N,N',N',1-pentamethyl- (CA INDEX NAME)



IT 9003-55-8F  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (rubber, reaction products, with silicon or tin compds. and organic  
 nitrogen or phosphorus-containing compds., preparation of, with improved  
 processability and phys. properties)  
 RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0  
 CMF C4 H6



CM 2

CRN 100-42-5  
 CMF C8 H8



L81 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1984:611888 HCAPLUS Full-text  
 DOCUMENT NUMBER: 101:211888  
 ORIGINAL REFERENCE NO.: 101:32127a,32130a  
 TITLE: Flocculation of latex particles and production of  
 thermoplastic resin  
 INVENTOR(S): Fujino, Kiyoharu  
 PATENT ASSIGNEE(S): Mitsubishi Monsanto Chemical Co. , Japan  
 SOURCE: Eur. Pat. Appl., 52 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 84837	A1	19830803	EP 1983-100366	19830117
EP 84837	B1	19890816		
R: BE, CH, DE, FR, GB, IT, LI, NL				
JP 58128112	A	19830730	JP 1982-10687	19820126
JP 03029812	B	19910425		
JP 58194907	A	19831114	JP 1982-76296	19820507
JP 01053882	B	19891116		
JP 59022905	A	19840206	JP 1982-133327	19820730

JP 02047482	B	19901019		
US 4569991	A	19860211	US 1983-457246	19830111
CA 1235547	A1	19880419	CA 1983-420060	19830124
BR 8300366	A	19831025	BR 1983-366	19830126
US 4581444	A	19860408	US 1985-723186	19850415
PRIORITY APPLN. INFO.:			JP 1982-10687	A 19820126
			JP 1982-76296	A 19820507
			JP 1982-133327	A 19820730
			US 1983-457246	A3 19830111

ED Entered STN: 04 Mar 2005

AB Thermoplastics are separated from latexes in a free-flowing form nearly free of occluded water by flocculation with water-soluble polymers having quaternary ammonium groups. Thus, stirring 10 kg 45% latex of PVC [9002-86-2] paste with 8 g 3,4-ionene bromide [31622-86-3] for 1 h and centrifuging at 3200 G gave a puttylike cake of PVC containing 30% H<sub>2</sub>O. Granulating this cake and fluidized drying at 120° gave PVC granules dispersing readily in 60 phr plasticizer.

IC C08F006-22; C08C001-14; C08J003-12

CC 35-4 (Chemistry of Synthetic High Polymers)

IT Rubber, butadiene-styrene, uses and miscellaneous

RL: USES (Uses)

(latexes, flocculation of, by quaternary ammonia polymers)

IT 26006-19-9 26062-79-3 31546-82-4 31622-86-3 31622-87-4  
 31622-88-5 32077-11-5 39660-17-8 54115-92-3 59407-64-6  
 59407-90-8 59424-41-8 70642-67-0 92140-69-7 93082-31-6  
 93082-32-7 93082-33-8 93082-34-9 93082-35-0 93082-36-1  
 93082-37-2 93082-38-3

RL: USES (Uses)

(flocculating agents, for polymer latexes)

IT 9003-55-8

RL: USES (Uses)

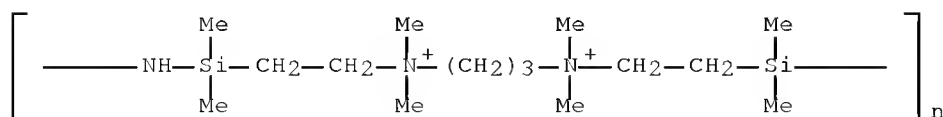
(rubber, butadiene-styrene; latexes, flocculation of, by quaternary ammonia polymers)IT 93082-38-3

RL: USES (Uses)

(flocculating agents, for polymer latexes)

RN 93082-38-3 HCAPLUS

CN Poly[imino(dimethylsilylene)-1,2-ethanediyl(dimethyliminio)-1,3-propanediyl(dimethyliminio)-1,2-ethanediyl(dimethylsilylene) dibromide] (9CI) (CA INDEX NAME)

IT 9003-55-8

RL: USES (Uses)

(rubber, butadiene-styrene; latexes, flocculation of, by quaternary ammonia polymers)

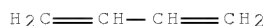
RN 9003-55-8 HCAPLUS

CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

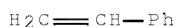
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8



L81 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1984:70108 HCAPLUS Full-text

DOCUMENT NUMBER: 100:70108

ORIGINAL REFERENCE NO.: 100:10683a,10686a

TITLE: Butyl rubber and/or polyisobutylene sealants

INVENTOR(S): Schwebel, Georg; Lipponer, Gerhard

PATENT ASSIGNEE(S): Teroson G.m.b.H., Fed. Rep. Ger.

SOURCE: Ger. Offen., 17 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3217516	A1	19831110	DE 1982-3217516	19820510
DE 3217516	C2	19850425		
EP 93918	A1	19831116	EP 1983-103944	19830422

R: AT, BE, DE, FR, GB, IT, NL

PRIORITY APPLN. INFO.: DE 1982-3217516 A 19820510

ED Entered STN: 12 May 1984

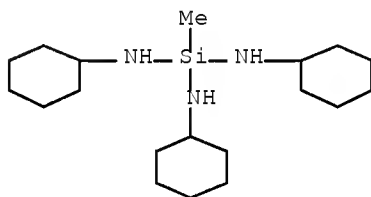
AB Homogeneous, storage-stable sealants, useful in glazing, are prepared by mixing silicones with butyl rubber and/or polyisobutylene (I) [9003-27-4]. Thus, 680 parts homogeneous mixture of 67:33 butyl rubber-paraffin oil 60, paraffin oil 90, I (mol. weight 8000) 20, ZnS 30, amorphous CaCO<sub>3</sub> 600, and xylene 50 parts was mixed with difunctional siloxane (viscosity 80 Pa-s at 20°) 120, silicone oil (viscosity .apprx.1 Pa-s) 70, Mol. Sieve 4A 10, precipitated CaCO<sub>3</sub> 60, and tris(cyclohexylamino)methylsilane [15901-40-3] 20 parts to give a sealant with d. 1.5, 70-90% modulus 0.3-0.4 N/cm<sup>2</sup>, and Shore A hardness after 6 mo 23, unchanged by 3 mo weathering or 3000 h Xeno-Test exposure.

IC C09K003-10; C08L023-22; C08L083-04

CC 42-11 (Coatings, Inks, and Related Products)

Section cross-reference(s): 39, 57

- ST siloxane blend sealant; polyisobutylene blend sealant; butyl rubber blend sealant; blend silicone sealant; aminosilane catalyst crosslinking sealant
- IT Rubber, butadiene-styrene, uses and miscellaneous  
Rubber, butyl, uses and miscellaneous  
RL: USES (Uses)  
(sealants, containing silicones, weather-resistant)
- IT Crosslinking catalysts  
(tris(cyclohexylamino)methylsilane, for silicone-polyisobutylene sealants)
- IT 15901-40-3  
RL: CAT (Catalyst use); USES (Uses)  
(crosslinking catalysts, for polyisobutylene-silicone sealants)
- IT 9003-55-8  
RL: USES (Uses)  
(rubber, butadiene-styrene; sealants, containing silicones, weather-resistant)
- IT 15901-40-3  
RL: CAT (Catalyst use); USES (Uses)  
(crosslinking catalysts, for polyisobutylene-silicone sealants)
- RN 15901-40-3 HCAPLUS
- CN Silanetriamine, N,N',N''-tricyclohexyl-1-methyl- (CA INDEX NAME)

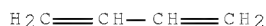


- IT 9003-55-8  
RL: USES (Uses)  
(rubber, butadiene-styrene; sealants, containing silicones, weather-resistant)
- RN 9003-55-8 HCAPLUS
- CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

CMF C4 H6



CM 2

CRN 100-42-5



CMF C8 H8

 $\text{H}_2\text{C}=\text{CH}-\text{Ph}$ 

L81 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1976:37324 HCAPLUS Full-text

DOCUMENT NUMBER: 84:37324

ORIGINAL REFERENCE NO.: 84:6063a,6066a

TITLE: Lithographic plates using hydrolyzable mercapto-silane compounds

INVENTOR(S): Boardman, Harold; Wagner, Richard L.

PATENT ASSIGNEE(S): Hercules Inc., USA

SOURCE: U.S., 7 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 3907564	A	19750923	US 1974-483845	19740627
PRIORITY APPLN. INFO.:			US 1974-483845	19740627

ED Entered STN: 12 May 1984

AB Lithog. plates are prepared by coating suitable supports with an unsatd. oleophilic organic polymer and a hydrolyzable mercaptosilane compound, imagewise exposing to photograft the mercaptosilane compound onto the polymer, developing to remove mercaptosilane from the unexposed areas, and amplifying the hydrophilicity of the mercaptosilane groups by treating with  $\geq 1$  amplifying agent selected from soluble silicate solns. and colloidal  $\text{SiO}_2$  dispersions. Thus, a grained Al plate was coated with an anhydrous Cellosolve acetate solution containing Cellosolve acetate 57.5, polyester resin prepared from fumaric acid and the diol made by condensing propylene oxide with bisphenol A 30, Zn acetate 1, and the biuret of hexamethylene diisocyanate crosslinking agent 11.5 parts, cured for 1 hr at  $120^\circ$ , a 0.1 molar MeOH solution of  $\gamma$ -mercaptopropyltrimethoxysilane (I) containing 10% by weight (based on I) of phloxine dye brushed onto the crosslinked polyester layer to give a surface concentration of 10-6 mole I/cm<sup>2</sup>, exposed through a transparency at a distance of 20 in. for 3 min using a 650 W visible movie light-type lamp, developed with MeOH, soaked for 15 hr in a 26% aqueous K silicate solution, washed with water, wiped with processing gum, and inked with a lithog. ink and fountain solution and used in a lithog. press to give >1000 copies with satisfactory results.

IC G03F

INCL 096033000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 14814-09-6 57765-35-2 57765-36-3 57765-37-4 57765-38-5

RL: USES (Uses)

(lithog. plate photosensitive composition containing unsatd. polyester and, photograftable)

IT 57765-39-6 57765-40-9 57765-41-0 57765-42-157765-43-2 57814-12-7

RL: USES (Uses)

(lithog. plate photosensitive composition containing unsatd. polyester

resin

and, photograftable)

IT 9003-55-8 25034-71-3

RL: USES (Uses)

(photografting of alkylmercaptosilane compds. on layers of, for lithog. plate preparation)

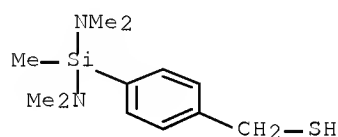
IT 57765-35-2

RL: USES (Uses)

(lithog. plate photosensitive composition containing unsatd. polyester and, photograftable)

RN 57765-35-2 HCAPLUS

CN Benzenemethanethiol, 4-[bis(dimethylamino)methylsilyl]- (CA INDEX NAME)

IT 57765-42-1 57765-43-2

RL: USES (Uses)

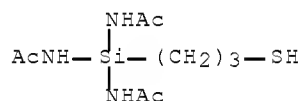
(lithog. plate photosensitive composition containing unsatd. polyester

resin

and, photograftable)

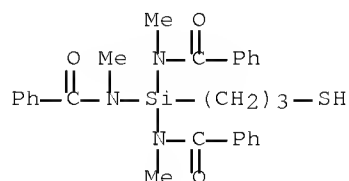
RN 57765-42-1 HCAPLUS

CN Acetamide, N,N',N''-[(3-mercaptopropyl)silyldiylne]tris- (CA INDEX NAME)



RN 57765-43-2 HCAPLUS

CN Benzamide, N,N',N''-[(3-mercaptopropyl)silyldiylne]tris[N-methyl- (CA INDEX NAME)

IT 9003-55-8

RL: USES (Uses)

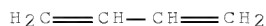
(photografting of alkylmercaptosilane compds. on layers of, for lithog. plate preparation)

10/599,651

RN 9003-55-8 HCAPLUS  
CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

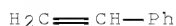
CM 1

CRN 106-99-0  
CMF C4 H6



CM 2

CRN 100-42-5  
CMF C8 H8



=> d ibib ab hit 29-32

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' - CONTINUE? (Y)/N:y

L81 ANSWER 29 OF 40 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 147:541952 CASREACT Full-text

TITLE: Monoanionic fac- $\kappa$ 3 Ligands Derived from  
6-Amino-1,4-diazepine: Ligand Dependence of Stability  
and Catalytic Activity of Their Scandium Alkyl  
Derivatives

AUTHOR(S): Ge, Shaozhong; Meetsma, Auke; Hessen, Bart

CORPORATE SOURCE: Center for Catalytic Olefin Polymerization, Stratingh  
Institute for Chemistry, University of Groningen,  
Groningen, 9747 AG, Neth.

SOURCE: Organometallics (2007), 26(22), 5278-5284

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

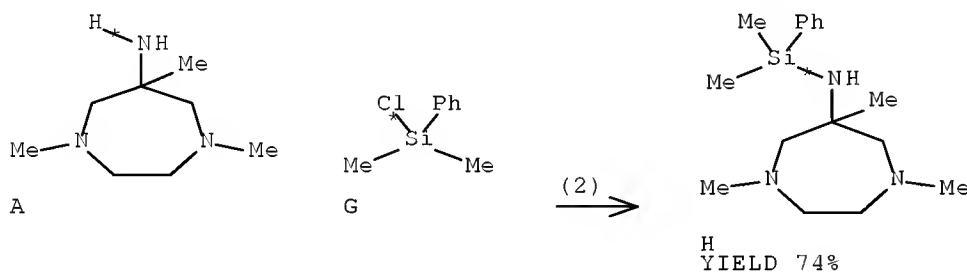
LANGUAGE: English

AB Two new monoanionic fac- $\kappa$ 3 tridentate pro-ligands N-R-hexahydro-1,4,6-trimethyl-1H-1,4-diazepin-6-amine (HL1, R = Me; HL2, R = PhMe2Si) were prepared by alkylation and silylation, resp., of hexahydro-1,4,6-trimethyl-1H-1,4-diazepine-6-amine. Protonolysis of  $\text{Sc}(\text{CH}_2\text{SiMe}_3)_3(\text{THF})_2$  by HL1 and HL2 yielded fac-[(L1-N,N',N'') $\text{Sc}(\text{CH}_2\text{SiMe}_3)_2(\text{THF})$ ] (1) and fac-[(L2-N,N',N'') $\text{Sc}(\text{CH}_2\text{SiMe}_3)_2(\text{THF})$ ] (2), resp. In toluene solvent, 1 loses a THF mol. and decomp. via metalation of the Me group of the amido functionality to give [[CH2- $\kappa$ 'C-( $\mu$ -N)-hexahydro-1,4,6-trimethyl-1,4-diazepine-

$\kappa N1, \kappa N4]Sc(CH_2SiMe_3)_2$  (3), whereas complex 2 loses a THF mol. to give stable  $[(L2-N, N', N'')Sc(CH_2SiMe_3)_2]$  (4). In THF, both 1 and 2 react with  $[PhNMe_2H][B(C_6H_5)_4]$  to generate the ionic monoalkyl compds.  $[(L-N, N', N'')Sc(CH_2SiMe_3)(THF)_2][B(C_6H_5)_4]$  (5, L = L1, 6, L = L2). Nevertheless, only the THF-free system 4/ $[PhNMe_2H][B(C_6H_5)_4]$  shows good ethylene polymerization activity, showing that a single THF mol. per Sc suffices to quench the catalysis. Dinuclear 3 reacts with ethylene via stoichiometric insertion into the Sc-CH<sub>2</sub>N bond to yield  $[(CH_2-\kappa'C-CH_2CH_2(\mu-N)-hexahydro-1,4,6-trimethyl-1,4-diazepine-\kappa N1, \kappa N4]Sc(CH_2SiMe_3)_2]$  (7). Crystal structures of 1, 2, 3 and 7 are reported.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(2) OF 24 A + G ==> H...



RX(2) RCT A 172092-33-0

STAGE(1)

RGT I 109-72-8 BuLi  
 SOL 60-29-7 Et<sub>2</sub>O, 110-54-3 Hexane  
 CON SUBSTAGE(1) -40 deg C  
 SUBSTAGE(2) 3 hours, room temperature  
 SUBSTAGE(3) room temperature -> -40 deg C

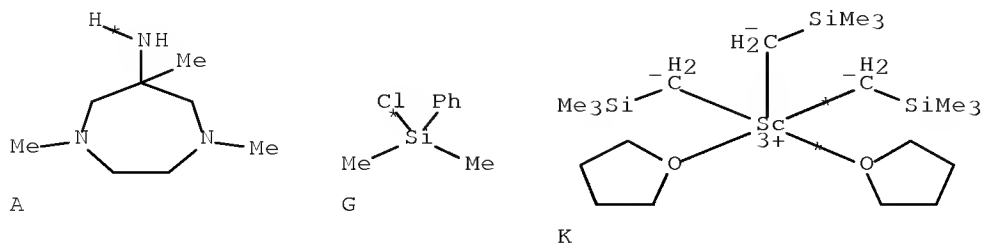
STAGE(2)

RCT G 768-33-2  
 CON overnight, room temperature

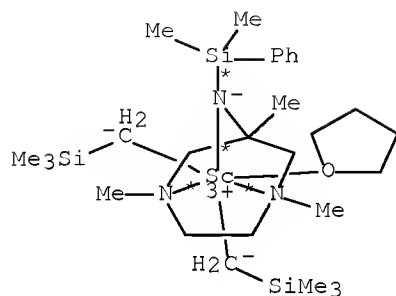
PRO H 957049-96-6

RX(15) OF 24 COMPOSED OF RX(2), RX(4)

RX(15) A + G + K ==> N



2  
STEPS  
→



N  
YIELD 83%

RX(2) RCT A 172092-33-0

STAGE(1)

RGT I 109-72-8 BuLi  
SOL 60-29-7 Et2O, 110-54-3 Hexane  
CON SUBSTAGE(1) -40 deg C  
SUBSTAGE(2) 3 hours, room temperature  
SUBSTAGE(3) room temperature -> -40 deg C

STAGE(2)

RCT G 768-33-2  
CON overnight, room temperature

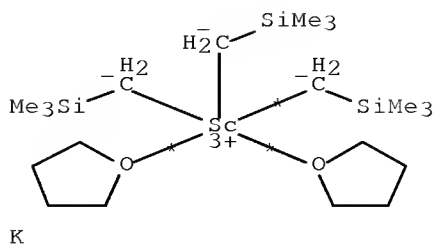
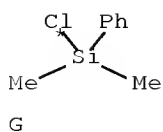
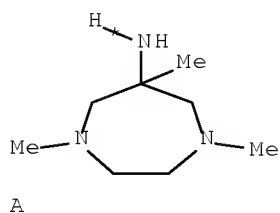
PRO H 957049-96-6

RX(4) RCT H 957049-96-6, K 41705-65-1  
PRO N 957049-87-5  
SOL 109-66-0 Pentane  
CON 0.5 hours, room temperature

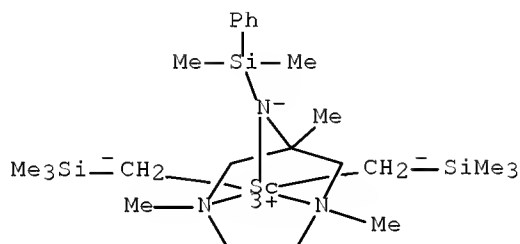
RX(21) OF 24 COMPOSED OF RX(2), RX(4), RX(6)

RX(21) A + G + K ==> R

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3  
STEPS  
→



R  
YIELD 95%

RX(2) RCT A 172092-33-0

STAGE(1)

RGT I 109-72-8 BuLi  
SOL 60-29-7 Et2O, 110-54-3 Hexane  
CON SUBSTAGE(1) -40 deg C  
SUBSTAGE(2) 3 hours, room temperature  
SUBSTAGE(3) room temperature -> -40 deg C

STAGE(2)

RCT G 768-33-2  
CON overnight, room temperature

PRO H 957049-96-6

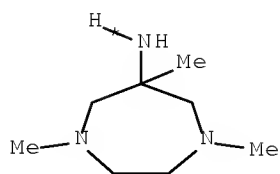
RX(4) RCT H 957049-96-6, K 41705-65-1  
PRO N 957049-87-5  
SOL 109-66-0 Pentane  
CON 0.5 hours, room temperature

RX(6) RCT N 957049-87-5  
PRO R 957049-89-7  
SOL 108-88-3 PhMe  
CON room temperature

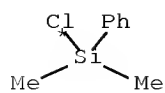
RX(22) OF 24 COMPOSED OF RX(2), RX(4), RX(8)

RX(22) A + G + K + S ==> U

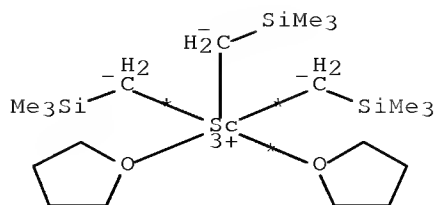
10/599,651



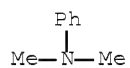
A



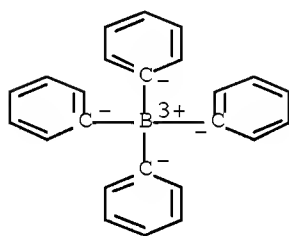
G



K

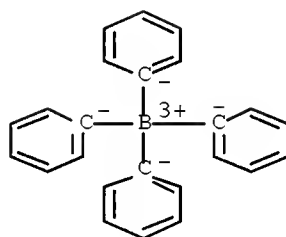


S: CM 1

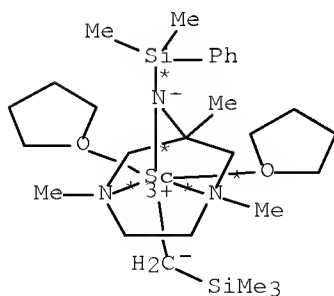


● H<sup>+</sup>  
S: CM 2

3  
STEPS  
→



U: CM 1  
YIELD 67%



U: CM 2  
YIELD 67%

RX(2) RCT A 172092-33-0

## STAGE(1)

RGT I 109-72-8 BuLi  
 SOL 60-29-7 Et<sub>2</sub>O, 110-54-3 Hexane  
 CON SUBSTAGE(1) -40 deg C  
 SUBSTAGE(2) 3 hours, room temperature  
 SUBSTAGE(3) room temperature -> -40 deg C

## STAGE(2)

RCT G 768-33-2  
 CON overnight, room temperature

PRO H 957049-96-6

RX(4) RCT H 957049-96-6, K 41705-65-1  
 PRO N 957049-87-5  
 SOL 109-66-0 Pentane  
 CON 0.5 hours, room temperature

RX(8) RCT N 957049-87-5, S 118573-45-8  
 PRO U 957049-93-3  
 SOL 109-99-9 THF  
 CON 20 minutes, room temperature

NTE product was precipitated with toluene

ST scandium dialkyl hexahydrodiazepinamine amido facial tridentate complex  
 prepn structure; amido diamine scandium dialkyl complex prepn  
 dealkylation ethene polymn; ethene polymn catalyst scandium amido  
diamine facial hexahydrodiazepinamine complex; heterocyclic  
diamine amido scandium alkyl prepn structure ethene polymn;  
 crystal structure scandium alkyl hexahydrodiazepinamine amido  
diamine facial chelate; mol structure scandium alkyl  
 hexahydrodiazepinamine amido diamine facial chelate

IT Polymerization catalysts

(coordination, scandium; preparation, structure, dealkylation and ethene  
 polymerization activity of scandium fac-tridentate  
 hexahydro-1,4-diazepine-6-amine amido dialkyl complexes)

L81 ANSWER 30 OF 40 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 140:146245 CASREACT Full-text  
 TITLE: Transition metal complexes containing functionalized  
 organoimido and phosphaneiminato ligands  
 AUTHOR(S): Siemeling, U.; Koelling, L.; Kuhnert, O.; Neumann, B.;  
 Stammler, A.; Stammler, H. G.; Fink, G.; Kaminski, E.;  
 Kiefer, A.; Schrock, R. R.  
 CORPORATE SOURCE: Fachbereich Physik Univ., Kassel, Germany  
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie  
 (2003), 629(5), 781-792  
 CODEN: ZAACAB; ISSN: 0044-2313  
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Two different types of modified imido and phosphaneiminato ligands are  
 investigated, namely chelate ligands and redox-functionalized ligands. The  
 first examples of di(organoimido)chromium as well as  
 di(phosphaneiminato)titanium and niobium chelates are described. Furthermore,  
 the first complexes containing redox-functionalized organoimido ligands are  
 presented, together with the first structurally characterized redox-  
 functionalized phosphaneiminato complex. Compds. of the type [(RN)<sub>2</sub>M(CH<sub>2</sub>Ph)<sub>2</sub>]  
 (M = Cr, Mo) are used as catalysts for the (co-)polymerization of the polar

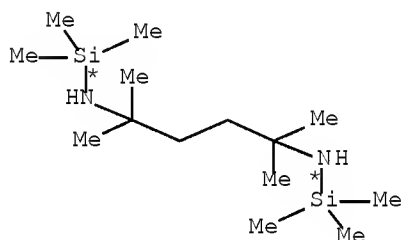
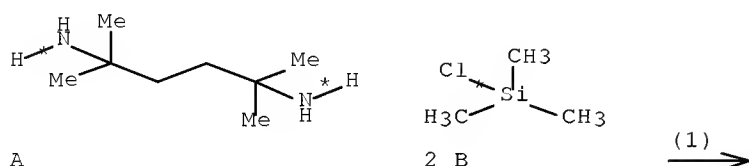


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olefins Me methacrylate, acrylonitrile and vinyl acetate. A range of x-ray crystal structure detns. provide clear evidence for the quantum-chemical result that, similar to organoimido complexes, the potential energy well for the angle at the nitrogen atom is very shallow for phosphaneiminato complexes.

REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(1) OF 13 A + 2 B ==> C...



C  
YIELD 76%

RX(1) RCT A 23578-35-0

STAGE(1)

RGT D 109-72-8 BuLi  
SOL 60-29-7 Et<sub>2</sub>O, 110-54-3 Hexane  
CON 3 hours, 0 deg C -> room temperature

STAGE(2)

RCT B 75-77-4  
CON 14 hours, 0 deg C -> room temperature

PRO C 288847-02-9

IT Electric potential

Polymerization catalysts

(preparation, crystal structure, and polymerization catalytic activity of transition metal complexes containing functionalized organoimido and phosphaneiminato ligands)

IT 80-62-6, Methyl methacrylate 107-13-1, Acrylonitrile, reactions  
108-05-4, Vinyl acetate, reactions 6921-34-2, Benzylmagnesium chloride  
7631-95-0, Sodium molybdate 14977-61-8, Chromyl chloride 23578-35-0,  
2,5-Diamino-2,5-dimethylhexane

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation, crystal structure, and polymerization catalytic activity of transition metal complexes containing functionalized organoimido and phosphaneiminato ligands)

IT 9003-20-7P, Poly vinyl acetate 9011-14-7P, Poly methyl methacrylate  
25014-41-9P, Poly acrylonitrile 30396-85-1P, Acrylonitrile methyl  
methacrylate copolymer

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation, crystal structure, and polymerization catalytic activity of transition metal complexes containing functionalized organoimido and phosphaneiminato ligands)

L81 ANSWER 31 OF 40 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 135:380217 CASREACT Full-text

TITLE: Synthesis, characterization and ethylene  
polymerization activity of zirconium complexes  
containing nonsymmetric diamido ligands derived from  
2-aminobenzylamine

AUTHOR(S): Gauvin, Regis M.; Lorber, Christian; Choukroun,  
Robert; Donnadieu, Bruno; Kress, Jacky

CORPORATE SOURCE: Laboratoire de Chimie des Metaux de Transition et de  
Catalyse, UMR du CNRS 7513, Institut Le Bel,  
Universite Louis Pasteur, Strasbourg, 67000, Fr.

SOURCE: European Journal of Inorganic Chemistry (2001), (9),  
2337-2346

CODEN: EJICFO; ISSN: 1434-1948

PUBLISHER: Wiley-VCH Verlag GmbH

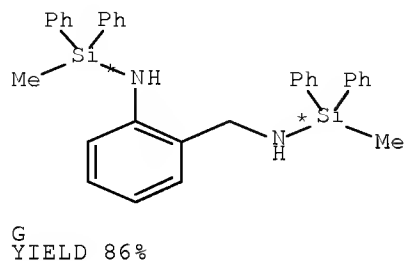
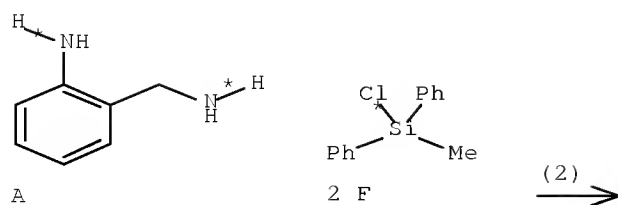
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Several N,N'-bis(trialkylsilyl)-substituted diamines [(SiR<sub>3</sub>)<sub>2</sub>-ABA]H<sub>2</sub> [ABA = 2-amidobenzylamido, SiR<sub>3</sub> = SiMe<sub>3</sub> (1a), SiMePh<sub>2</sub> (1b), SiMe<sub>2</sub>tBu (1c) or Si<sup>i</sup>Pr<sub>3</sub> (1d)], together with related compds. in which the substituents of the two N atoms are different, e.g. [(SiMePh<sub>2</sub>)(SiMe<sub>3</sub>)-ABA]H<sub>2</sub> (1g), were synthesized. Their reaction with 2 equiv of BuLi afforded the dilithiated derivs., which reacted with ZrCl<sub>4</sub> to yield metallaspirocyclic complexes Zr[(SiR<sub>3</sub>)<sub>2</sub>-ABA]<sub>2</sub>. Protonolysis of Zr(NMe<sub>2</sub>)<sub>4</sub> with 1 equiv of the parent diamines led to the monosubstituted complexes Zr[(SiR<sub>3</sub>)<sub>2</sub>-ABA](NMe<sub>2</sub>)<sub>2</sub> [SiR<sub>3</sub> = SiMe<sub>3</sub> (4a), SiMePh<sub>2</sub> (4b) or SiMe<sub>2</sub>tBu (4c)] and Zr[(SiMePh<sub>2</sub>)(SiMe<sub>3</sub>)-ABA](NMe<sub>2</sub>)<sub>2</sub> (4g) in high yield, and subsequent reaction with excess SiMe<sub>3</sub>Cl afforded the dichlorides Zr[(SiMe<sub>3</sub>)<sub>2</sub>-ABA]Cl<sub>2</sub> (5a), Zr[(SiMe<sub>2</sub>tBu)<sub>2</sub>-ABA]Cl<sub>2</sub> (5c), and Zr[(SiMePh<sub>2</sub>)(SiMe<sub>3</sub>)-ABA]Cl<sub>2</sub> (5g). The x-ray crystal structure of 5c shows that it forms dimers via two Zr-Cl bridges; also, a bonding interaction between the Zr center and the aryl ipso-C atom linked to the anilinic N atom is evident. A hydrochlorinated derivative of 5c, Zr[(SiMe<sub>2</sub>tBu)<sub>2</sub>(H)-ABA]Cl<sub>3</sub> (6c), was also analyzed by x-ray diffraction and shown to exhibit analogous structural characteristics. Low-temperature NMR studies revealed all these complexes to be fluxional and permitted an insight into the mol. structures in solution. The ABA framework undergoes a rocking motion about the corresponding ZrN<sub>2</sub> plane, whose activation energy is 37-43 kJ mol<sup>-1</sup>. Compds. 3 and 5 exist as several stereoisomers that interconvert by this process. On activation with Me aluminoxane, the dichloride complexes of type 5 polymerize ethylene at both room temperature and pressure to yield linear high mol. mass polyethylenes with a broad mol. mass distribution.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(2) OF 48 A + 2 E ==> G...



RX(2) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 60-29-7 Et2O, 110-54-3 Hexane

STAGE(2)

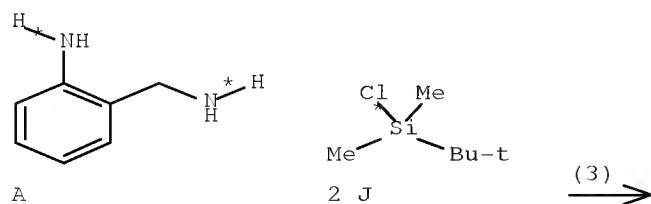
RCT F 144-79-6

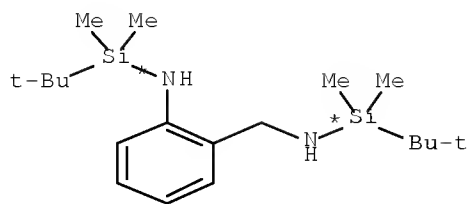
SOL 60-29-7 Et2O

PRO G 374074-73-4

NTE product depends on stoichiometry

RX(3) OF 48 A + 2 J ==> K...





K  
YIELD 85%

RX(3) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 109-99-9 THF, 60-29-7 Et2O

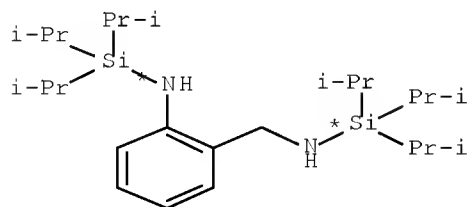
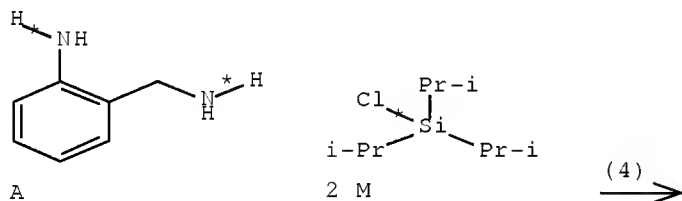
STAGE(2)

RCT J 18162-48-6

SOL 60-29-7 Et2O

PRO K 374074-74-5

RX(4) OF 48 A + 2 M ==> N...



N  
YIELD 82%

RX(4) RCT A 4403-69-4

STAGE(1)

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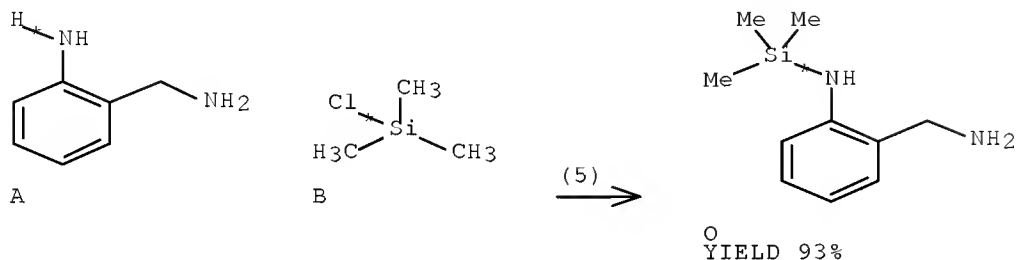
RGT H 109-72-8 BuLi  
SOL 109-99-9 THF, 60-29-7 Et2O

STAGE(2)

RCT M 13154-24-0  
SOL 60-29-7 Et2O

PRO N 374074-75-6

RX(5) OF 48     A + B ==> O



RX(5)     RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi  
SOL 110-54-3 Hexane, 60-29-7 Et2O

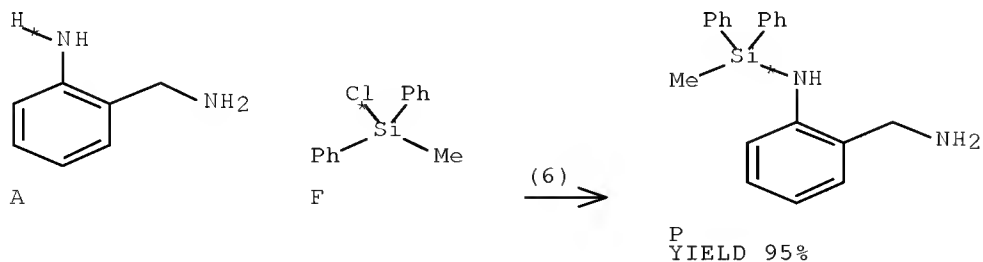
STAGE(2)

RCT B 75-77-4

PRO O 374074-76-7

NTE product depends on reaction conditions

RX(6) OF 48     A + F ==> P...



RX(6)     RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

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SOL 60-29-7 Et2O, 110-54-3 Hexane

STAGE(2)

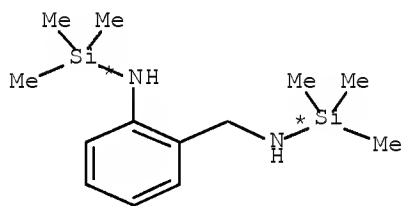
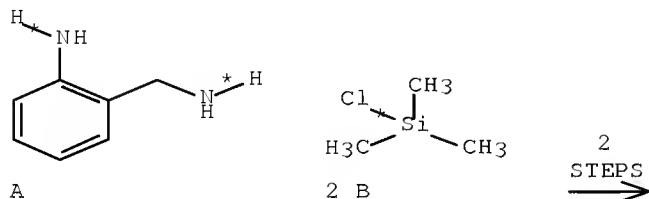
RCT F 144-79-6

PRO P 374074-77-8

NTE product depends on stoichiometry

RX(25) OF 48 COMPOSED OF RX(1), RX(8)

RX(25) A + 2 B ==> B



● 2 Li

<sup>R</sup>  
YIELD 58%

RX(1) RCT A 4403-69-4, B 75-77-4

RGT D 121-44-8 Et3N

PRO C 249514-40-7

SOL 60-29-7 Et2O

NTE product depends on reaction conditions

RX(8) RCT C 249514-40-7

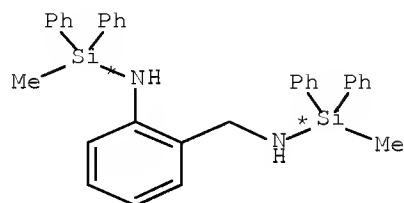
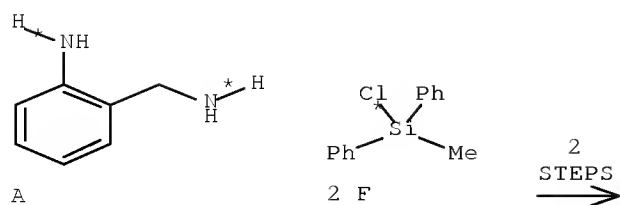
RGT H 109-72-8 BuLi

PRO R 374074-79-0

SOL 109-66-0 Pentane, 110-54-3 Hexane

RX(27) OF 48 COMPOSED OF RX(2), RX(9)

RX(27) A + 2 F ==> T



● 2 Li

T  
YIELD 34%

RX(2) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 60-29-7 Et2O, 110-54-3 Hexane

STAGE(2)

RCT F 144-79-6

SOL 60-29-7 Et2O

PRO G 374074-73-4

NTE product depends on stoichiometry

RX(9) RCT G 374074-73-4

RGT H 109-72-8 BuLi

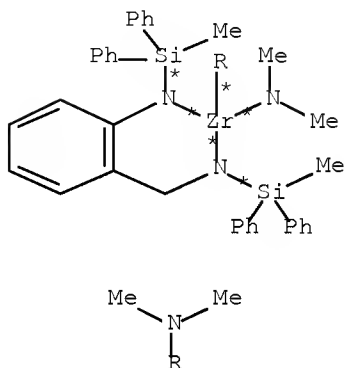
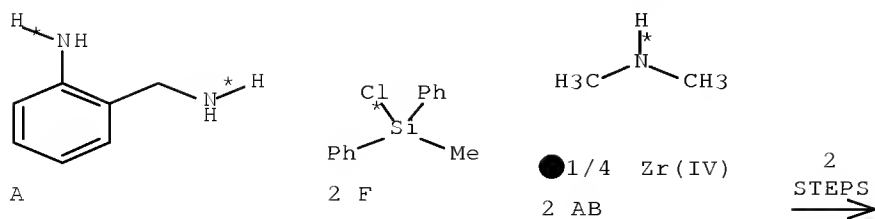
PRO T 374074-80-3

SOL 109-66-0 Pentane, 110-54-3 Hexane

RX(28) OF 48 COMPOSED OF RX(2), RX(16)

RX(28) A + 2 F + 2 AB ==> AD

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AD  
YIELD 96%

```

RX(2)          RCT   A 4403--69-4

                STAGE(1)
                  RGT   H 109-72-8 BuLi
                  SOL   60-29-7 Et2O, 110-54-3 Hexane

                STAGE(2)
                  RCT   F 144--79-6
                  SOL   60-29-7 Et2O

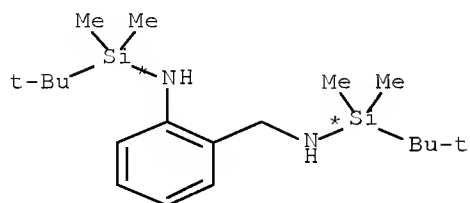
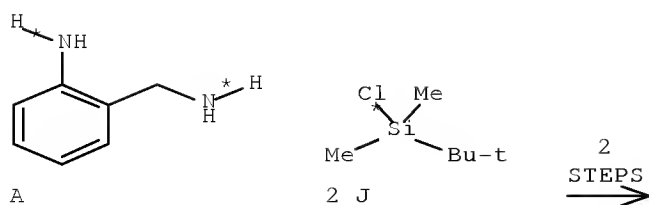
                PRO    G 374074-73-4
                NTE    product depends on stoichiometry

RX(16)         RCT   G 374074-73-4, AB 19756-04-8
                PRO    AD 374074-87-0
                SOL    109-66-0 Pentane

```

$$\text{RX}(29) \quad \mathbb{A} + 2 \mathbb{J} \implies \mathbb{U}$$





● 2 Li

U  
YIELD 80%

RX(3) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 109-99-9 THF, 60-29-7 Et2O

STAGE(2)

RCT J 18162-48-6

SOL 60-29-7 Et2O

PRO K 374074-74-5

RX(10) RCT K 374074-74-5

RGT H 109-72-8 BuLi

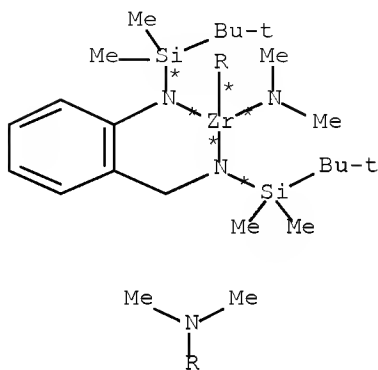
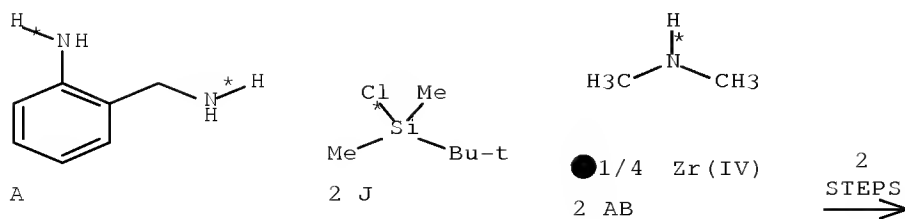
PRO U 374074-81-4

SOL 109-66-0 Pentane, 110-54-3 Hexane

RX(30) OF 48 COMPOSED OF RX(3), RX(17)

RX(30) A + 2 J + 2 AB ==> AE

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AE  
YIELD 99%

RX(3) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 109-99-9 THF, 60-29-7 Et2O

STAGE(2)

RCT J 18162-48-6

SOL 60-29-7 Et2O

PRO K 374074-74-5

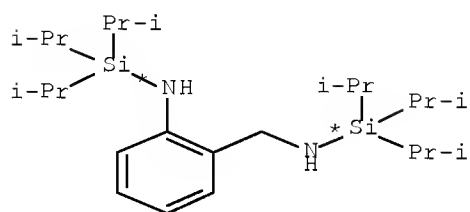
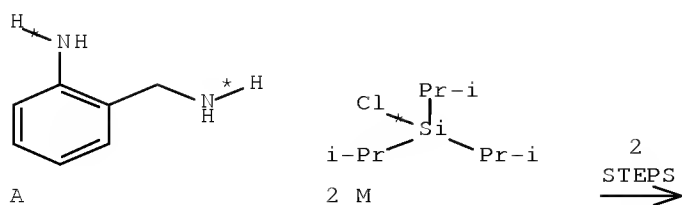
RX(17) RCT K 374074-74-5, AB 19756-04-8

PRO AE 374074-88-1

SOL 109-66-0 Pentane

RX(31) OF 48 COMPOSED OF RX(4), RX(11)

RX(31) A + 2 M ==> V



● 2 Li

V  
YIELD 95%

RX(4) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 109-99-9 THF, 60-29-7 Et2O

STAGE(2)

RCT M 13154-24-0

SOL 60-29-7 Et2O

PRO N 374074-75-6

RX(11) RCT N 374074-75-6

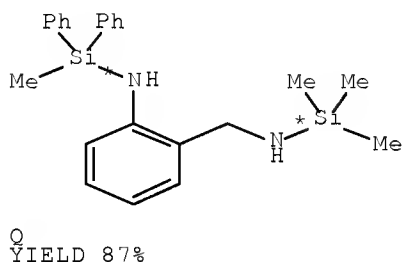
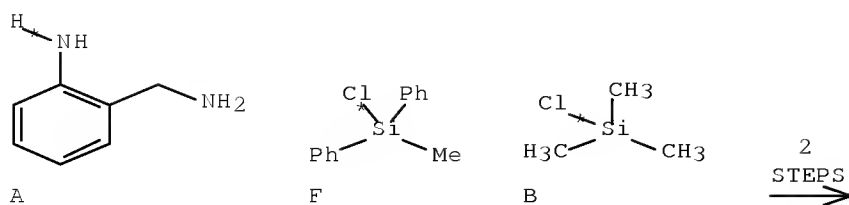
RGT H 109-72-8 BuLi

PRO V 374074-82-5

SOL 109-66-0 Pentane, 110-54-3 Hexane

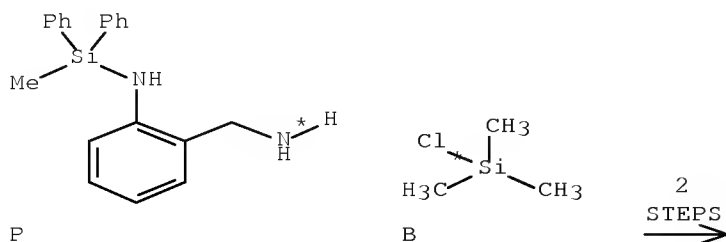
RX(32) OF 48 COMPOSED OF RX(6), RX(7)

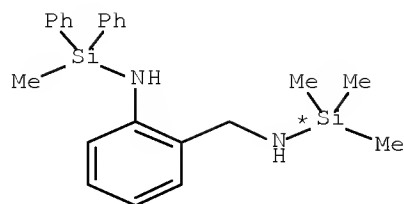
RX(32) A + E + B ==> Q



RX(6)            RCT   A 4403-69-4  
                   STAGE(1)  
                   RGT   H 109-72-8 BuLi  
                   SOL   60-29-7 Et2O, 110-54-3 Hexane  
                   STAGE(2)  
                   RCT   F 144-79-6  
                   PRO   P 374074-77-8  
                   NTE   product depends on stoichiometry  
 RX(7)            RCT   P 374074-77-8, B 75-77-4  
                   RGT   D 121-44-8 Et3N  
                   PRO   Q 374074-78-9  
                   SOL   60-29-7 Et2O

RX(33) OF 48 COMPOSED OF RX(7), RX(12)  
 RX(33)        F + B ==> W





● 2 Li

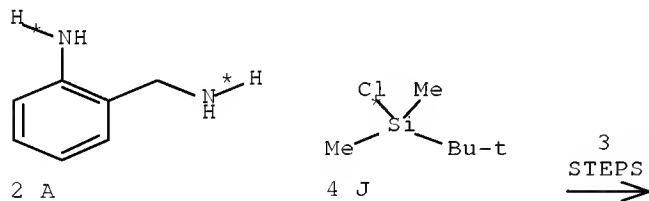
W  
YIELD 45%

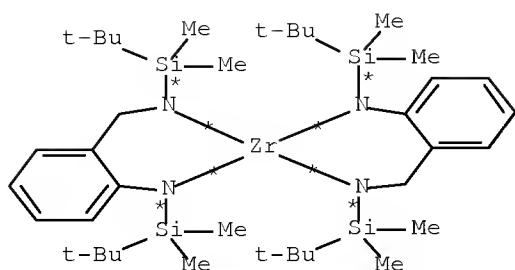
RX(7) RCT P 374074-77-8, B 75-77-4  
 RGT D 121-44-8 Et3N  
 PRO Q 374074-78-9  
 SOL 60-29-7 Et2O

RX(12) RCT Q 374074-78-9  
 RGT H 109-72-8 BuLi  
 PRO W 374074-83-6  
 SOL 109-66-0 Pentane, 110-54-3 Hexane

RX(41) OF 48 COMPOSED OF RX(3), RX(10), RX(13)

RX(41) 2 A + 4 J ==> X





X  
YIELD 52%

RX(3) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 109-99-9 THF, 60-29-7 Et<sub>2</sub>O

STAGE(2)

RCT J 18162-48-6

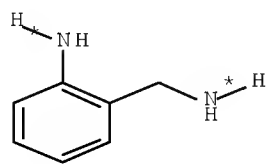
SOL 60-29-7 Et<sub>2</sub>O

PRO K 374074-74-5

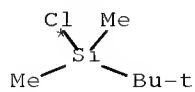
RX(10) RCT K 374074-74-5  
RGT H 109-72-8 BuLi  
PRO U 374074-81-4  
SOL 109-66-0 Pentane, 110-54-3 Hexane

RX(13) RCT U 374074-81-4  
RGT Y 10026-11-6 ZrCl<sub>4</sub>  
PRO X 374074-84-7  
SOL 108-88-3 PhMe

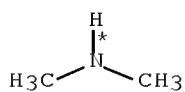
RX(42) OF 48 COMPOSED OF RX(3), RX(17), RX(20)  
RX(42) 2 A + 4 J + 4 AB + Z ==> AB



2 A

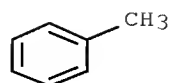


4 J



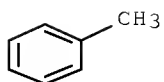
1/4 Zr(IV)

4 AB



Z

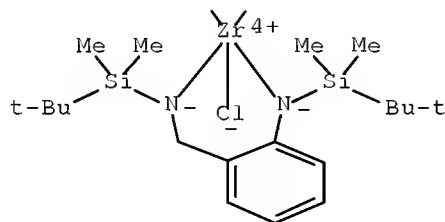
3  
STEPS  
→



AH: CM 1  
YIELD 55%

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

PAGE 2-A



AH: CM 2  
YIELD 55%

RX(3) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 109-99-9 THF, 60-29-7 Et2O

STAGE(2)

RCT J 18162-48-6

SOL 60-29-7 Et2O

PRO K 374074-74-5

RX(17) RCT K 374074-74-5, AB 19756-04-8

PRO AE 374074-88-1

SOL 109-66-0 Pentane

RX(20) RCT AE 374074-88-1

STAGE(1)

RGT B 75-77-4 Me3SiCl

SOL 109-66-0 Pentane

STAGE(2)

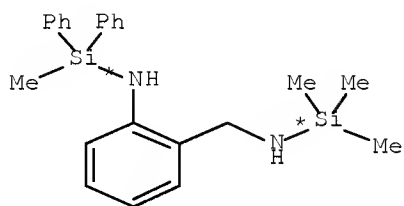
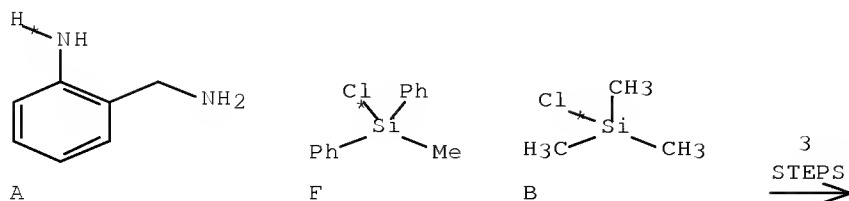
RCT Z 108-88-3

SOL 109-66-0 Pentane

PRO AH 374074-92-7

RX(43) OF 48 COMPOSED OF RX(6), RX(7), RX(12)

RX(43) A + F + B ==> W



● 2 Li

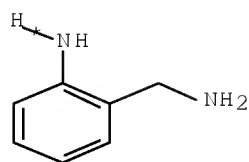
W  
YIELD 45%

RX(6) RCT A 4403-69-4  
 STAGE(1)  
 RGT H 109-72-8 BuLi  
 SOL 60-29-7 Et2O, 110-54-3 Hexane  
 STAGE(2)  
 RCT F 144-79-6  
 PRO P 374074-77-8  
 NTE product depends on stoichiometry  
 RX(7) RCT P 374074-77-8, B 75-77-4  
 RGT D 121-44-8 Et3N  
 PRO Q 374074-78-9  
 SOL 60-29-7 Et2O  
 RX(12) RCT Q 374074-78-9  
 RGT H 109-72-8 BuLi  
 PRO W 374074-83-6  
 SOL 109-66-0 Pentane, 110-54-3 Hexane

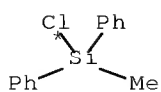
RX(44) OF 48 COMPOSED OF RX(6), RX(7), RX(18)

RX(44) A + F + B + 2 AB ==> AF

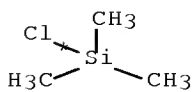




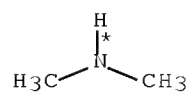
A



F

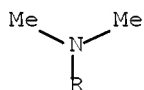
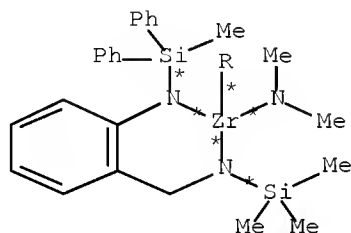


B



● 1/4 Zr (IV)

2 AB

3  
STEPS  
→AF  
YIELD 98%

RX(6) RCT A 4403-69-4

STAGE(1)  
RGT H 109-72-8 BuLi  
SOL 60-29-7 Et2O, 110-54-3 Hexane

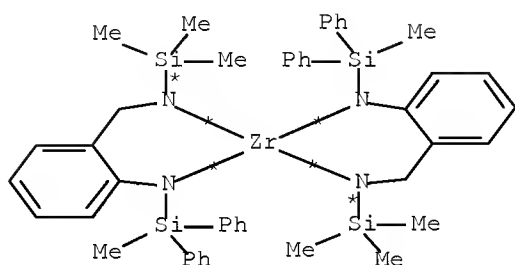
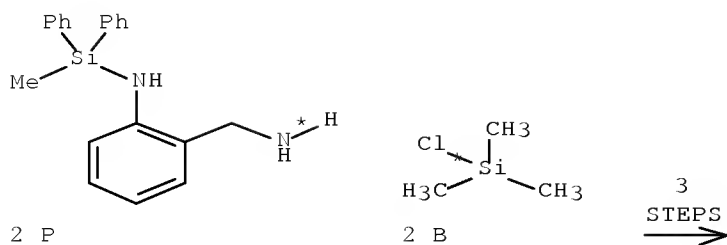
STAGE(2)  
RCT F 144-79-6

PRO P 374074-77-8  
NTE product depends on stoichiometry

RX(7) RCT P 374074-77-8, B 75-77-4  
RGT D 121-44-8 Et3N  
PRO Q 374074-78-9  
SOL 60-29-7 Et2O

RX(18) RCT Q 374074-78-9, AB 19756-04-8  
PRO AF 374074-89-2  
SOL 109-66-0 Pentane

RX(45) OF 48 COMPOSED OF RX(7), RX(12), RX(14)  
RX(45) 2 F + 2 B ==> AA



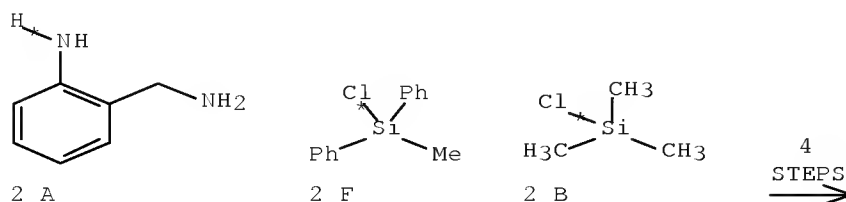
AA  
YIELD 76%

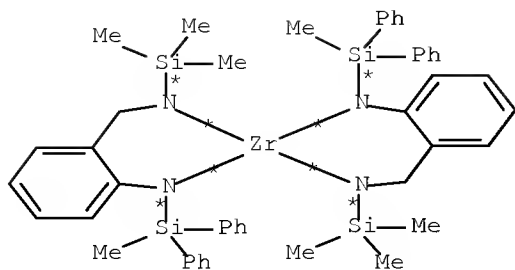
RX(7)      RCT    P 374074-77-8, B 75-77-4  
              RGT    D 121-44-8 Et3N  
              PRO    Q 374074-78-9  
              SOL    60-29-7 Et2O

RX(12)     RCT    Q 374074-78-9  
              RGT    H 109-72-8 BuLi  
              PRO    W 374074-83-6  
              SOL    109-66-0 Pentane, 110-54-3 Hexane

RX(14)     RCT    W 374074-83-6  
              RGT    Y 10026-11-6 ZrCl4  
              PRO    AA 374074-85-8  
              SOL    108-88-3 PhMe

RX(47) OF 48 COMPOSED OF RX(6), RX(7), RX(12), RX(14)  
 RX(47)      2 A + 2 F + 2 B ==> AA





AA  
YIELD 76%

RX(6) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 60-29-7 Et<sub>2</sub>O, 110-54-3 Hexane

STAGE(2)

RCT F 144-79-6

PRO P 374074-77-8

NTE product depends on stoichiometry

RX(7) RCT P 374074-77-8, B 75-77-4

RGT D 121-44-8 Et<sub>3</sub>N

PRO Q 374074-78-9

SOL 60-29-7 Et<sub>2</sub>O

RX(12) RCT Q 374074-78-9

RGT H 109-72-8 BuLi

PRO W 374074-83-6

SOL 109-66-0 Pentane, 110-54-3 Hexane

RX(14) RCT W 374074-83-6

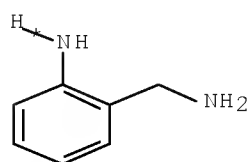
RGT Y 10026-11-6 ZrCl<sub>4</sub>

PRO AA 374074-85-8

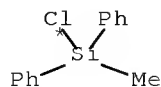
SOL 108-88-3 PhMe

RX(48) OF 48 COMPOSED OF RX(6), RX(7), RX(18), RX(24)

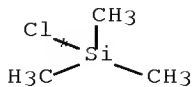
RX(48) 2 A + 2 F + 2 B + 4 AB ==> AN



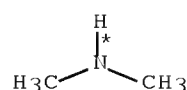
2 A



2 F



2 B

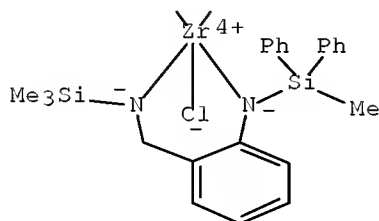


● 1/4 Zr (IV)  
4 AB

4  
STEPS  
→

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

PAGE 2-A



AN  
YIELD 81%

RX(6) RCT A 4403-69-4

STAGE(1)

RGT H 109-72-8 BuLi

SOL 60-29-7 Et2O, 110-54-3 Hexane

STAGE(2)

RCT F 144-79-6

PRO P 374074-77-8

NTE product depends on stoichiometry

RX(7) RCT P 374074-77-8, B 75-77-4

RGT D 121-44-8 Et3N

PRO Q 374074-78-9

SOL 60-29-7 Et2O

RX(18) RCT Q 374074-78-9, AB 19756-04-8

PRO AF 374074-89-2

SOL 109-66-0 Pentane

RX(24) RCT AF 374074-89-2

RGT B 75-77-4 Me3SiCl

PRO AN 374074-93-8

SOL 109-66-0 Pentane

AB Several N,N'-bis(trialkylsilyl)-substituted diamines [(SiR3)2-ABA]H2 [ABA = 2-amidobenzylamido, SiR3 = SiMe3 (1a), SiMePh2 (1b), SiMe2tBu (1c) or SiPr3 (1d)], together with related compds. in which the substituents of the two N atoms are different, e.g. [(SiMePh2)(SiMe3)-ABA]H2 (1g), were synthesized.

Their reaction with 2 equiv of BuLi afforded the dilithiated derivs., which reacted with ZrCl<sub>4</sub> to yield metallaspirocyclic complexes Zr[(SiR<sub>3</sub>)<sub>2</sub>-ABA]<sub>2</sub>. Protonolysis of Zr(NMe<sub>2</sub>)<sub>4</sub> with 1 equiv of the parent diamines led to the monosubstituted complexes Zr[(SiR<sub>3</sub>)<sub>2</sub>-ABA](NMe<sub>2</sub>)<sub>2</sub> [SiR<sub>3</sub> = SiMe<sub>3</sub> (4a), SiMePh<sub>2</sub> (4b) or SiMe<sub>2</sub>tBu (4c)] and Zr[(SiMePh<sub>2</sub>)(SiMe<sub>3</sub>)-ABA](NMe<sub>2</sub>)<sub>2</sub> (4g) in high yield, and subsequent reaction with excess SiMe<sub>3</sub>Cl afforded the dichlorides Zr[(SiMe<sub>3</sub>)<sub>2</sub>-ABA]Cl<sub>2</sub> (5a), Zr[(SiMe<sub>2</sub>tBu)<sub>2</sub>-ABA]Cl<sub>2</sub> (5c), and Zr[(SiMePh<sub>2</sub>)(SiMe<sub>3</sub>)-ABA]Cl<sub>2</sub> (5g). The x-ray crystal structure of 5c shows that it forms dimers via two Zr-Cl bridges; also, a bonding interaction between the Zr center and the aryl ipso-C atom linked to the anilinic N atom is evident. A hydrochlorinated derivative of 5c, Zr[(SiMe<sub>2</sub>tBu)<sub>2</sub>(H)-ABA]Cl<sub>3</sub> (6c), was also analyzed by x-ray diffraction and shown to exhibit analogous structural characteristics. Low-temperature NMR studies revealed all these complexes to be fluxional and permitted an insight into the mol. structures in solution. The ABA framework undergoes a rocking motion about the corresponding ZrN<sub>2</sub> plane, whose activation energy is 37-43 kJ mol<sup>-1</sup>. Compds. 3 and 5 exist as several stereoisomers that interconvert by this process. On activation with Me<sub>2</sub>Al<sub>2</sub>O<sub>3</sub>, the dichloride complexes of type 5 polymerize ethylene at both room temperature and pressure to yield linear high mol. mass polyethylenes with a broad mol. mass distribution.

# IT Polymerization catalysts

(zirconium amidobenzylamide chelate complexes as catalysts for polymerization of ethylene)

L81 ANSWER 32 OF 40 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 131:58976 CASREACT Full-text  
 TITLE: Preparation of di(polycyclic amino)dialkoxysilanes as stereospecific polymerization catalysts

INVENTOR(S): Ikai, Shigeru; Fukunaga, Toshifumi; Fujimoto, Junichi

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

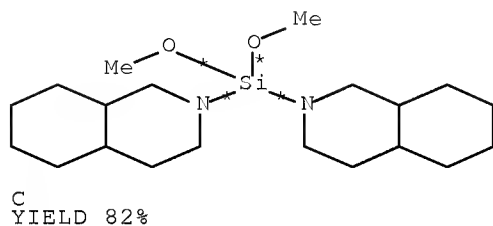
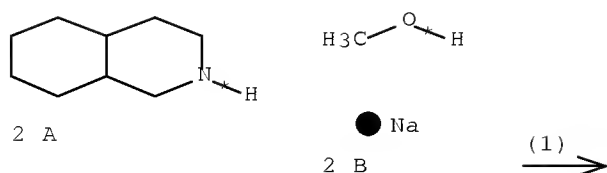
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11158190	A	19990615	JP 1997-328465	19971128
JP 3588995	B2	20041117		

PRIORITY APPLN. INFO.: JP 1997-328465 19971128

AB The title compds. are prepared by treatment of SiCl<sub>4</sub> with polycyclic secondary amines and alkali metal or alkaline earth alkoxides. A mixture of heptane, perhydroisoquinoline, and Et<sub>3</sub>N was added dropwise to SiCl<sub>4</sub> and the reaction mixture was further stirred at 70° for 4 h. After filtration of the reaction mixture, the filtrate was treated with a heptane slurry of NaOMe at 70° for 10 h to give 82% (based on Si) di(perhydroisoquinolino)dimethoxysilane.

RX(1) OF 1 2 A + 2 B ==> C



RX(1)      RCT    A   6329-61-9

STAGE(1)

RGT    D   10026-04-7 SiCl<sub>4</sub>

CAT    121-44-8 Et<sub>3</sub>N

SOL    142-82-5 Heptane

STAGE(2)

RCT    B   124-41-4

SOL    142-82-5 Heptane

PRO    C   207689-95-0

NTE    1st step 70° 4 h, 2nd step 70° 10 h

TI    Preparation of di(polycyclic amino)dialkoxysilanes as stereospecific polymerization catalysts

IT    Metal alkoxides

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkaline earth alkoxides; preparation of di(polycyclic amino)dialkoxysilanes as stereospecific polymerization catalysts)

IT    Metal alkoxides

Metal alkoxides

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkali metal; preparation of di(polycyclic amino)dialkoxysilanes as stereospecific polymerization catalysts)

IT    Alkali metal compounds

Alkali metal compounds

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkoxides; preparation of di(polycyclic amino)dialkoxysilanes as stereospecific polymerization catalysts)

IT    Heterocyclic compounds

RL: RCT (Reactant); RACT (Reactant or reagent)

(nitrogen, polycyclic; preparation of di(polycyclic amino)dialkoxysilanes as stereospecific polymerization catalysts)

IT    Polymerization catalysts

(stereospecific; preparation of di(polycyclic amino)

)dialkoxysilanes as stereospecific polymerization catalysts)  
 IT 207689-95-0P, Di(perhydroisoquinolino)dimethoxysilane  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation of di(polycyclic amino)dialkoxysilanes as  
 stereospecific polymerization catalysts)  
 IT 124-41-4, Sodium methoxide 6329-61-9, Perhydroisoquinoline 10026-04-7,  
 Tetrachlorosilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of di(polycyclic amino)dialkoxysilanes as  
 stereospecific polymerization catalysts)

=> d iall abeq tech abex 33-36

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX,  
 JAPIO' - CONTINUE? (Y)/N:y

L81 ANSWER 33 OF 40 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN  
 ACCESSION NUMBER: 2003-801305 [75] WPIX  
 DOC. NO. CPI: C2003-221270 [75]  
 TITLE: Improving functionalization of living polymer anions by  
 anionically polymerizing monomer(s) with  
 functionalized alkyl lithium initiator(s) to  
 form living polymer anion(s), in the presence  
 organometallic compound(s)  
 DERWENT CLASS: A18; E12  
 INVENTOR: BROCKMANN T W; MEHTA V C  
 PATENT ASSIGNEE: (FMCC-C) FMC CORP  
 COUNTRY COUNT: 1

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20030114592	A1	20030619	(200375)*	EN	16	[0]

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20030114592	A1	US 2001-4260	20011024

PRIORITY APPLN. INFO: US 2001-4260 20011024  
 INT. PATENT CLASSIF.:  
 IPC RECLASSIF.: C08C0019-00 [I,C]; C08C0019-44 [I,A]; C08F0036-00 [I,C];  
~~C08F0036-04~~ [I,A]  
 ECLA: C08C0019-44; C08F0036-04+4/48; C08F0036-04+4/50  
 USCLASS NCLM: 525/195.000  
 NCLS: 525/250.000; 525/254.000; 525/364.000; 525/366.000;  
 526/123.100; 526/177.000; 526/178.000; 526/187.000;  
 526/335.000

#### BASIC ABSTRACT:

US 20030114592 A1 UPAB: 20051007  
 NOVELTY - Improving functionalization of living polymer anions,  
 comprises anionically polymerizing monomer(s) in the presence of  
 functionalized alkyl lithium initiator(s) to form living polymer anion(s), in  
 the presence of organometallic compound(s) capable of forming an ate complex

with a lithiated species in less than 10 mol% to impart thermal stability to the living polymer anions without inhibiting the r

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a polymer composition comprising anionically polymerized functionalized living polymers and organometallic compound(s) capable of forming an ate complex with an alkyllithium species.

USE - For improving functionalization of living polymer anions.

ADVANTAGE - The invention improves the thermal stability of living polymer anions, and the efficiency of subsequent functionalization and linking reactions of such living polymer anions. MANUAL CODE: CPI: A02-A07; A02-A07B; A04-B01A; A10-B01; E05-A; E05-B;

E05-C02; E05-D; E05-E; E05-F; E05-L03D; E05-M; E05-N;  
E05-Q

#### TECH

POLYMERS - Preferred Composition: The organometallic compound is present at 0.001 to less than 10 (preferably 1-7) mol%, based on the amount of lithiated species present.

Preferred Component: The composition comprises a hydrocarbon solvent from (cyclo)alkanes, and/or aromatic solvents. The organometallic compound is soluble in hydrocarbon solvents.

Preferred Process: The process further comprises reacting the thermally stabilized living polymer anion with a functionalizing agent to form a polymer having terminal functional group(s); and optionally reacting the terminal functionalized group(s) with comonomer(s) to form a polymer segment. It also comprises linking the thermally stabilized living polymer anions with a linking agent to form a star or multi-branched polymer.

ABEX SPECIFIC COMPOUNDS - 141 Functionalized alkyllithium initiators are specifically claimed, e.g. 3-(t-butyldimethylsilyloxy)-1-propyllithium. The organometallic compound is diethylmagnesium, diisopropylmagnesium, dibutylmagnesium, dicyclohexylmagnesium, diphenylmagnesium, diethylzinc, dibutylzinc, diphenylzinc, triethylaluminum, tripropylaluminum, triisopropylaluminum, tributylaluminum, trioctylaluminum, trimethylboron, triethylboron or tributylboron.

EXAMPLE - Initiator was separated under argon to give Lot A as the control, which contained 2,2-dimethyl-3-trimethylsilyloxy-1-propyllithium (90 g) as 20 wt.% solution in cyclohexane; and Lot B, which contained 2,2-dimethyl-3-trimethylsilyloxy-1-propyllithium (112 g) as 20 wt.% solution in cyclohexane. Lot B was treated with dibutylmagnesium (0.93 g) or 5 mol% dibutylmagnesium relative to 2,2-dimethyl-3-trimethylsilyloxy-1-propyllithium. Both Lot A and Lot B were stored at room temperature for 25 days and then utilized as initiators. Polymerizations using Lot A (control) and Lot B (stabilized with dibutylmagnesium) were conducted and the results showed that Lot A had initiator efficiency of 64%, while Lot B had 80%.

L81 ANSWER 34 OF 40 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN  
ACCESSION NUMBER: 2000-579166 [54] WPIX  
DOC. NO. CPI: C2000-172364 [54]  
TITLE: New composition comprising alkyl lithium compounds and/or functionalized alkyl lithiums with one or additives for stabilizing chain ends of living polymers  
DERWENT CLASS: A60; E12; E19  
INVENTOR: DOVER T; GRANGER E J; LETCHFORD R J; QUIRK R P; SCHWINDEMAN J A  
PATENT ASSIGNEE: (FMCC-C) FMC CORP  
COUNTRY COUNT: 89

PATENT INFORMATION:



PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2000050478	A1	20000831	(200054)*	EN	49[0]	
AU 2000036098	A	20000914	(200063)	EN		
TW 552275	A	20030911	(200417)	ZH		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000050478	A1	WO 2000-US5088	20000224
AU 2000036098	A	AU 2000-36098	20000224
TW 552275	A	TW 2000-103349	20000225

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000036098	A	WO 2000050478

Based on

PRIORITY APPLN. INFO: US 1999-121536P 19990225

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C08F0012-00 [I,C]; C08F0012-04 [I,A]; C08F0036-00 [I,C];  
~~C08F0036-04~~ [I,A]; C08F0004-00 [I,C]; C08F0004-58  
 [I,A]

ECLA: C08F0012-04+4/58; C08F0036-04+4/58

## BASIC ABSTRACT:

WO 2000050478 A1 UPAB: 20060117

NOVELTY - A new composition with enhanced thermal stability comprises alkyl lithium compounds and/or functionalized alkyl lithium compounds along with one or more stabilizing additives.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a process for preparing living polymer anions having improved thermal stability, comprising anionically ~~polymerizing~~ one or more monomers in the presence of one or more alkyl lithium ~~initiators~~ and/or one or more functionalized alkyl lithium. ~~initiators~~ and in the presence of at least one additive selected from ~~silyl~~ ethers, germane ethers, tin ethers, ~~silyl~~ amines, germane amines, tin amines, alkyl ~~silanes~~, aryl ~~silanes~~, alkylaryl ~~silanes~~, alkyl germanes, aryl germanes, alkylaryl germanes, alkyl tins, aryl tins, alkylaryl tins, phenols and/or naphthols.

USE - For improving the stability of living polymer chain ends.

ADVANTAGE - Compositions have improved thermal stability. MANUAL CODE:

CPI: A02-A07B; A04-B01A; A04-C01A; A10-E; A10-E22;

A10-E22A; E05-A; E05-E01; E05-E02; E05-F01; E05-F02

## TECH

ORGANIC CHEMISTRY - Preferred Properties: The composition has a carbon bound lithium value of at least 90% and about 100 ntu (nephelometer turbidity units).

Preferred Additives: The additives are selected from ~~silyl~~ ethers, germane ethers, tin ethers, ~~silyl~~ amines, germane amines, tin amines, alkyl ~~silanes~~, aryl ~~silanes~~, alkylaryl ~~silanes~~, alkyl germanes, aryl germanes, alkylaryl germanes, alkyl tins, aryl tins, alkylaryl tins, phenols and naphthols.

Preferred ~~Silyl~~ Ethers: The ~~silyl~~ ethers are selected from 1-(t-~~butyldimethylsilyloxy~~)propane, 1-(t-~~butyldimethylsilyloxy~~)butane, 1-(t-~~butyldimethylsilyloxy~~)hexane, 1-(t-~~butyldimethylsilyloxy~~)-2-ethylhexane, 1-(t-~~butyldimethylsilyloxy~~)octane, 2-(t-~~butyldimethylsilyloxy~~)propane, 2-(t-~~butyldimethylsilyloxy~~)butane, 2-(t-

butyldimethylsilyloxy)hexane, 2-(t-butyldimethylsilyloxy)octane, 1,4-(bis-(t-butyldimethylsilyloxy))butane, 1,4-cyclohexanedimethanol-(bis-(t-butyldimethylsilyl)) ether, etc., (28 further compounds are given.)

Preferred Silyl Amines: The silyl amines are selected from one or more of heptamethyldisilazane, diethylaminotrimethylsilane, diethylaminotriisopropylsilane, N-(t-butyldimethylsilyl)-N-methylaniline, N-methyl-N-(trimethylsilyl)-aniline, N,N-(bis-(trimethylsilyl))aniline, and 1-propyl-(2,2,5,5-tetramethyl-2,5-disila-1-azacyclopentane).

Preferred Aryl Silanes: The aryl silanes are selected from one or more of tetraphenylsilane, diphenylsilane and 1-naphthyltriphenylsilane.

Preferred Alkylaryl Silanes: The alkylaryl silanes are selected from dimethyldiphenylsilane, phenyltrimethylsilane, 1,4-(bis(trimethylsilyl))benzene, methylphenylsilane, dimethylphenylsilane and phenyltriisopropylsilylane.

Preferred Alkyl Germanes: The alkyl germanes are selected from tetraphenylgermane, diphenylgermane and 1-naphthyltriphenylgermane.

Preferred Alkylaryl Germanes: The alkylaryl germanes are selected from dimethyldiphenylgermane, phenyltrimethylgermane and dimethylphenylgermane.

Preferred Alkyl Tins: The alkyl tins are selected from tetramethyltin, tetra-n-butyltin and diethyldimethyltin.

Preferred Aryl Tins: The aryl tins are selected from tetraphenyltin, triphenyltin and 1-naphthyltriphenyltin.

Preferred Alkylaryl Tins: The alkylaryl tins are selected from dimethyldiphenyltin, phenyltrimethyltin and dimethylphenyltin.

Preferred Alkyl lithiums: The alkyl lithiums are selected from one or more of methyl lithium, ethyl lithium, n-propyl lithium, 2-propyl lithium, n-butyl lithium, sec-butyl lithium, tert-butyl lithium, n-hexyl lithium, 2-ethylhexyl lithium and 1-octyl lithium.

Preferred Functionalized Alkyl Lithiums: The functionalized alkyl lithiums are selected from one or more of 3-(t-butyldimethylsilyloxy)

-1-propyl lithium, 3-(t-butyldimethylsilyloxy)-2-methyl-1-propyl lithium, 3-(t-butyldimethylsilyloxy)-2,2-dimethyl-1-propyl lithium, 4-(t-butyldimethylsilyloxy)-1-butyl lithium, 5-(t-butyldimethylsilyloxy)-1-pentyl lithium, 6-(t-butyldimethylsilyloxy)-1-hexyl lithium, 8-(t-butyldimethylsilyloxy)-1-octyl lithium, 3-(t-butyldiphenylsilyloxy)-1-propyl lithium, 3-(t-butyldiphenylsilyloxy)-2-methyl-1-propyl lithium, 3-(t-butyldiphenylsilyloxy)-2,2-dimethyl-1-propyl lithium, 6-(t-butyldiphenylsilyloxy)-1-hexyl lithium, 3-(triisopropylsilyloxy)-1-propyl lithium and 3-(trimethylsilyloxy)-2,2-dimethyl-1-propyl lithium, 3-(1,1-dimethylethoxy)-1-propyl lithium, 3-(1,1-dimethylethoxy)-2-methyl-1-propyl lithium, 3-(1,1-dimethylethoxy)-2,2-dimethyl-1-propyl lithium, 4-(1,1-dimethylethoxy)-1-butyl lithium, 5-(1,1-dimethylethoxy)-1-pentyl lithium, 6-(1,1-dimethylethoxy)-1-hexyl lithium, 8-(1,1-dimethylethoxy)-1-octyl lithium, 3-(1,1-dimethylpropoxy)-1-propyl lithium, 3-(1,1-dimethylpropoxy)-2-methyl-1-propyl lithium, 3-(1,1-dimethylpropoxy)-2,2-dimethyl-1-propyl lithium, 4-(1,1-dimethylpropoxy)-1-butyl lithium, 5-(1,1-dimethylpropoxy)-1-pentyl lithium, 6-(1,1-dimethylpropoxy)-1-hexyl lithium, 8-(1,1-dimethylpropoxy)-1-octyl lithium, 4-(methoxy)-1-butyl lithium,

4-(ethoxy)-1-butyllithium, 4-(n-propyloxy)-1-butyllithium, 4-(1-methylethoxy)-1-butyllithium, 3-(3-(dimethylamino)-1-propyloxy)-1-propyllithium, 3-(2-(dimethylamino)-1-ethoxy)-1-propyllithium, etc., (105 further compounds are given).

Preferred Solvent: The solvent is selected from one or more of alkanes, cycloalkanes and aromatics.

Preferred Phenols and Naphthols: The phenols and naphthols are selected from one or more of phenol, 1-naphthol, 2-naphthol, 4-(t-butyl)-phenol, catechol, 2-methylphenol, 3-methylphenol, 4-methylphenol, 2,6-(di-t-butyl)-4-methylphenol, 4-methoxyphenol, 4-methoxy-1-naphthol, bisphenol A and 2,7-dihydroxy-naphthene.

ABEX EXAMPLE - A 1000 ml glass reactor was equipped with one break-seal reagent ampoule, a sampling port attached with a polytetrafluoroethylene stopcock, an inlet tube fitted with a septum cap, and a magnetic stir bar. This reactor was flame sealed to a high vacuum line, and evacuated at 120degreesC for 8 hours. The flask was refilled with dry argon, and allowed to cool to room temperature. 3-(t-Butyldimethylsilyloxy)-1-propyllithium 17.93 wt.% in cyclohexane, 3.60 grams (20 mmoles) was added to the reactor with a syringe via the inlet tube. Cyclohexane, 585 ml., was then vacuum distilled directly into the reactor. The flask was then removed from the vacuum line by a flame seal. The monomer, purified 1,3-butadiene, 40 grams (740 mmole) was added from the ampoule. The reaction mixture was then placed in a constant temperature bath at 30degreesC, until all of the 1,3-butadiene had been consumed, about 15 hours.

L81 ANSWER 35 OF 40 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN  
 ACCESSION NUMBER: 1997-145633 [13] WPIX  
 DOC. NO. CPI: C1997-046544 [13]  
 TITLE: Preparation of functionalised telechelic star polymers for use

as base material in e.g. coatings and sealants - involves step of polymerising conjugated diene monomer(s) and/or alkenylaromatic cpd(s). and/or diene monomer(s) with alkenylaromatic cpd(s). using protected functionalised initiator

DERWENT CLASS: A12; A28; E11; E12; G02; G03; H07  
 INVENTOR: KAMIENSKI C W; LETCHFORD R J; SCHWINDEMAN J A  
 PATENT ASSIGNEE: (FMCC-C) FMC CORP  
 COUNTRY COUNT: 69

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 9705180	A1	19970213	(199713)*	EN	39	[0]
AU 9666035	A	19970226	(199725)	EN		
EP 842206	A1	19980520	(199824)	EN		
US 5919870	A	19990706	(199933)	EN		
EP 842206	B1	20030416	(200328)	EN		
DE 69627501	E	20030522	(200341)	DE		

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9705180	A1	WO 1996-US12407	19960729
US 5919870	A Provisional	US 1995-1689P	19950731
US 5919870	A	US 1996-660658	19960605
AU 9666035	A	AU 1996-66035	19960729

10/599,651

DE 69627501 E	DE 1996-69627501 19960729
EP 842206 A1	EP 1996-925555 19960729
EP 842206 B1	EP 1996-925555 19960729
DE 69627501 E	EP 1996-925555 19960729
EP 842206 A1	WO 1996-US12407 19960729
EP 842206 B1	WO 1996-US12407 19960729
DE 69627501 E	WO 1996-US12407 19960729

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69627501 E	Based on	EP 842206 A
AU 9666035 A	Based on	WO 9705180 A
EP 842206 A1	Based on	WO 9705180 A
EP 842206 B1	Based on	WO 9705180 A
DE 69627501 E	Based on	WO 9705180 A

PRIORITY APPLN. INFO: US 1996-660658 19960605  
US 1995-1689P 19950731

INT. PATENT CLASSIF.:

IPC RECLASSIF.: C08C0019-00 [I,C]; C08C0019-44 [I,A]; C08F0036-00 [I,C];  
~~C08F0036-04~~ [I,A]; C08F0004-00 [I,C]; C08F0004-46  
[I,A]; C08F0004-72 [I,A]; C08F0008-00 [I,A]; C08F0008-00  
[I,C]

ECLA: C08C0019-44; C08F0004-46; C08F0004-72; C08F0008-00;  
C08F0036-04+4/46; C08F0036-04+4/72

BASIC ABSTRACT:

WO 1997005180 A1 UPAB: 20060112

Preparation of functionalised telechelic multi-arm (star)-polymers  
comprises:

(a) polymerising a monomer selected from a conjugated diene monomer or mixture thereof, an alkenylaromatic cpd. or mixture thereof and a mixture of one or more diene monomers together with one or more alkenylaromatic cpds., in a liquid reaction medium, at -30 - 150°C for at least 1 hr., with a protected functionalised initiator of formula (I) to produce protected 'living' polymer anions;

M-Qn-Z-T-(A-R1R2R3)m (I)

M = Li, Na or K; Q = unsaturated hydrocarbyl gp. derived by incorporation of a conjugated diene hydrocarbon(s), an alkenylaromatic cpd(s). or mixts. of a diene(s) with an alkenylaromatic cpd(s). into the M-Z linkage; Z = opt. branched 3-25C hydrocarbon connecting gp.; T = O, S or N; (A-R1R2R3)m = a protecting gp.; A = Group IVA element, pref. C or Si; R1-R3 = H, alkyl or aryl gps., opt. substd. with lower alkyl, lower alkylthio and lower dialkylamino gps. or 5-12C opt. substd. cycloalkyl gps.; n = integer of 0-5; and m = 1 when T = O or S and = 2 when T = N;

(b) reacting with a cpd. selected from difunctional cpds. and/or polyfunctional cpds. at 20-135°C for at least 1 hr., to produce multi-arm star polymers;

(c) removing the protecting gp. to produce functionalised telechelic star polymers with O, S or N gps. on the bend of each end of the each arm of the star polymers;

(d) reacting these terminal functional gps. with selected difunctional or polyfunctional comonomer or comonomers selected from organic dicarboxylic acids, organic polycarboxylic acids, organic diisocyanates, organic polyisocyanates, organic diamids, organic polyamids, organic polyols, ethylene oxide in the presence of potassium butoxide, methacryloyl chloride and styrenedimethylchlorosilane which is subsequently reacted with a free radically polymerisable monomer; and

(e) recovering the multi-arm star polymers from the reaction medium.

Also claimed is a functionalised telechelic star polymer prepared as above.

USE - The star polymers are used as base materials for coatings, sealants, binders and block copolymers with polyesters, polyamides and polycarbonates. Obtd. moulding resins can be used for exterior automotive components.

ADVANTAGE - The star polymers improve the flexibility and impact strength of base materials. Sulphonated styrene and/or 4-vinyl pyridine can be polymerised by free radical initiators onto the terminal alkenyl gps. at (T) to produce functional polymer segments which can improve the dispersibility of the star polymers in lubricating oils (claimed).

MANUAL CODE: CPI: A02-A07B; A02-B; A04-B01A; A04-C01A; A12-B01C; A12-B01G; A12-R08; E05-A; G02-A02D1; G02-A02D4; G04-B02; H07-G03

L81 ANSWER 36 OF 40 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN  
 ACCESSION NUMBER: 1997-145632 [13] WPIX  
 DOC. NO. CPI: C1997-046543 [13]  
 TITLE: Multi-branched or star-shaped polymers with mixed functional and non-functional ends - prepared by polymerising conjugated alkadiene with alkyl- and protected functional organo-lithium initiators.  
 DERWENT CLASS: A12; A18; A28; E11; E12; G02; G03; H07  
 INVENTOR: QUIRK R P  
 PATENT ASSIGNEE: (FMCC-C) FMC CORP  
 COUNTRY COUNT: 69

#### PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 9705179	A1	19970213	(199713)*	EN	82	[0]
AU 9666819	A	19970226	(199725)	EN		
US 5798418	A	19980825	(199841)	EN		

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9705179	A1	WO 1996-US12380	19960729
US 5798418	A Provisional	US 1995-1687P	19950731
US 5798418	A	US 1996-683487	19960718
AU 9666819	A	AU 1996-66819	19960729

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9666819	Based on	WO 9705179 A

PRIORITY APPLN. INFO: US 1996-683487 19960718  
 US 1995-1687P 19950731

#### INT. PATENT CLASSIF.:

IPC RECLASSIF.: C08C0019-00 [I,C]; C08C0019-44 [I,A]; C08F0012-00 [I,C];  
 C08F0012-06 [I,A]; C08F0297-00 [I,C]; C08F0297-04 [I,A];  
 C08F0036-00 [I,C]; ~~C08F0036-04~~ [I,A];  
 C08F0004-00 [I,C]; C08F0004-46 [I,A]; C08F0004-72 [I,A];  
 C08G0081-00 [I,C]; C08G0081-02 [I,A]; C08G0083-00 [I,A];  
 C08G0083-00 [I,C]

ECLA: C08C0019-44; C08F0004-46A; C08F0004-72; C08F0012-06;

10/599,651

C08F0036-04+4/46A; C08F0036-04+4/72; C08F0297-04K;  
C08G0081-02D4; C08G0083-00

BASIC ABSTRACT:

WO 1997005179 A1 UPAB: 20060112

Multi-branched or star-shaped polymers having mixed functional and non-functional ends are produced by a process comprising: (a) polymerising conjugated alkadienes, of butadiene, isoprene or alkanyl substd. aromatic cpds. of ( $\alpha$ -methyl) styrene, singly, sequentially, or as mixts., in a liquid reaction medium, at a temp. of  $-30^{\circ}$  -  $150^{\circ}$  C for a period of hr(s), with mixts of: (i) alkyl lithium initiators of n-, sec- or tert.-butyl lithium; and (ii) protected functional organolithium initiators of formula (I) to give protected living polymer anions; (b) reacting the living polymer anions with a polyfunctional linking cpd. of silicon- or tri-tetrachloride, phosphorus trichloride, isomeric di-isopropenyl- or isomeric divinyl-benzene, or mixts. of the cpds. at a temperature of  $20$ - $135^{\circ}$  C, for a period of hr(s). to give multi-arm star polymers, and terminating with a protic terminating agent; (c) removing the protecting gp. to give functionalised multicholic multi-arm or star polymers with hydroxyl, sulphydryl or amino gps. on the end of some of the arms of the multi-arm or star polymers; (d) reacting the functionalised gps. on the ends of the arms of the multi-arm or star polymers with a di- or polyfunctional comonomer or comonomers of organic di- or polycarboxylic acids, organic di- or polyisocyanates, organic di- or polyamides, cyclic amides, organic di- or polyols, ethylene oxide in the presence of potassium butoxide, or (meth)acryloyl chloride, or styrenyldimethylchlorosilane, the last 3 of which are then copolymerised with a free radically polymerisable monomer; and (e) recovering the multi-arm star polymers from the reaction medium. Q = unsatd hydrocarbyl gp. derived by including conjugated diene hydrocarbon(s), alkenyl aromatic cpd(s), or mixture into the Li-Z linkage at a C-L bond; Z = opt branched 3-25C hydrocarbyl connecting gp.; T = element of oxygen, sulphur or nitrogen; (A-R<sub>1</sub>R<sub>2</sub>R<sub>3</sub>)<sub>m</sub> = protecting gp.; A = element of Gp. IVa, eg, C and Si; R<sub>1</sub>, -R<sub>3</sub> = H, alkyl, substd. alkyl containing lower alkyl(thio) or lower dialkylamino gps., aryl or substd. aryl containing lower alkyl(thio) or lower dialkylamino gps. or 5-12C (substd) cycloalkyl gps.; m = 1 when T is oxygen or sulphur and 2 when T is nitrogen; and n = 0-5. Also claimed are: (i) multi-branched or star-shaped polymers having mixed functional and non-functional ends produced by a process comprising separately producing protected living polymer anions; (ii) the process to produce multi-branched or star-shaped polymers; (iii) the process to prepare multi-branched or star-shaped polymers by separately producing protected living polymer anions; and (iv) a process for modifying the surface adhesion properties of polyolefins comprising melt mixing the functional polymer with a polyolefin at a level of 1-25 weight% based on the polyolefin.

USE - The protected hydroxy multi-arm star polymers are used as base materials to produce coatings, sealants, binders and block copolymers with polyesters, polyamides and polycarbonates, useful as moulding cpds. for exterior automotive components, or adhesive, toughening polymers for epoxy composites, heterophase polymer network systems, hydrogels, viscosity improvers or compatibilisers for polymer waste recycling.

ADVANTAGE - The mol. architecture of the cpds. can be more precisely controlled, and the ratio of protected to functionalised to non-functionalised arms can be adjusted. The monomer identity, the monomer compsn. and mol. weight of the functional arms can be independently manipulated, and the number of polymer arms can be adjusted by varying the nature of the coupling agent, and the ratio of living polymer to coupling agent.

MANUAL CODE: CPI: A02-A07; A04-B01A; A10-E01; E05-A; G03-B02; H07-G06

=> d bib ab ind 37-40

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' - CONTINUE? (Y)/N:y

L81 ANSWER 37 OF 40 RAPRA COPYRIGHT 2008 RAPRA on STN  
 AN R:621085 RAPRA FS Rapra Abstracts Full-text  
 TI RECENT ADVANCES IN THE DEVELOPMENT OF AROMATIC POLYMERS WITH IMPROVED  
 PROPERTIES. I. NEW METHODS FOR THE SYNTHESIS OF AROMATIC POLYAMIDES AND  
 POLYIMIDES.  
 AU Lozano A E; de la Campa J G (Instituto de Ciencia y Tecnologia de  
 Polimeros)  
 SO Revista de Plasticos Modernos 70, No.470, Aug.1995, p.141-53  
 ISSN: 0034-8708  
 CODEN: RPMOAM  
 PY 1995  
 DT Journal  
 LA Spanish  
 AB Developments in polymerisation methods for the synthesis of aromatic  
 polyamides and polyimides are reviewed. These include the synthesis of  
 polyamides using nucleophilic and electrophilic activation, activation with  
 phosphorus and benzazole compounds and organometallic compounds as  
polymerisation catalysts, the use of silylated diamines in the synthesis of  
 polyamides and polyimides, synthesis of polyimides by direct  
 polycondensation, and synthesis of polyetherimides from aromatic diphenols.  
 109 refs.  
 AN R:621085 RAPRA FS Rapra Abstracts Full-text  
 CC 43C318; 43C4; 43C5; 72221; 723  
 SC \*KR; KB; KS  
 CT ACTIVATION; ACTIVATOR; ACYLATING AGENT; ACYLATION; AMIDE POLYMER;  
 AMORPHOUS; ANALYSIS; APROTIC; AROMATIC; CATALYST; CHARGE-TRANSFER  
 COMPLEX; CHEMICAL MODIFICATION; CHEMOSELECTIVITY; COMPANIES; COMPANY;  
 CONDENSATION POLYMERISATION; CONDENSATION POLYMERIZATION; CROSSLINK;  
 CRYSTALLISATION; CRYSTALLIZATION; CYCLODEHYDRATION; DATA; DEGREE OF  
 CONVERSION; DEGREE OF POLYMERISATION; DEGREE OF POLYMERIZATION;  
 DEHYDRATION; ELECTRON ACCEPTOR; ELECTRON DENSITY; ELECTRONEGATIVITY;  
 ELECTROPHILIC; ENGINEERING APPLICATION; ENGINEERING PLASTIC; FIBER;  
 FIBRE; FILM; FILMS; FUNCTIONAL GROUP; GRAPH; HEAT RESISTANCE; HYDROLYSIS;  
 IMIDE GROUP; IMIDE POLYMER; IMIDISATION; IMIDIZATION; IN-SITU;  
 INSTITUTION; LEWIS ACID; MODIFICATION; MOLEC.WT.; MOLECULAR MASS;  
 MOLECULAR ORBITAL; MOLECULAR WEIGHT; NMR SPECTROSCOPY; NUCLEAR MAGNETIC  
 RESONANCE; NUCLEOPHILIC; NYLON; PEI; PHOSPHORYLATION; PLASTIC; POLAR  
 SOLVENT; POLYAMIC ACID; POLYAMIDATION; POLYAMIDE; POLYARAMID;  
 POLYARAMIDE; POLYCONDENSATION; POLYESTERAMIDE; POLYETHERIMIDE; POLYIMIDE;  
 POLYMERISATION; POLYMERISATION CATALYST; POLYMERISATION CATALYSTS;  
 POLYMERISATION MECHANISM; POLYMERISATION RATE; POLYMERISATION  
 TEMPERATURE; POLYMERISATION TIME; POLYMERIZATION; POLYMERIZATION  
 CATALYST; POLYMERIZATION MECHANISM; POLYMERIZATION RATE; POLYMERIZATION  
 TEMPERATURE; POLYMERIZATION TIME; POLYPHENYLENE TEREPHTHALAMIDE;  
 POLYPYROMELLITIMIDE; PROPERTIES; PROTON ABSTRACTION; RATE OF  
 POLYMERISATION; REACTIVITY; REVIEW; RHEOLOGICAL PROPERTIES; RHEOLOGY;  
 SIDE REACTION; SILATION; SILYLATION; SOLUBILITY; SOLUTION POLYMERISATION;  
 SOLUTION POLYMERIZATION; SOLVENT; STABILITY; STEP POLYMERISATION; STEP  
 POLYMERIZATION; STOICHIOMETRY; TECHNICAL; THERMAL PROPERTIES; THERMAL  
 STABILITY; THERMOPLASTIC; VISCOSITY  
 NPT ACID CHLORIDE; ACID DICHLORIDE; AMIDE GROUP; AMINE; BENZAZOLE; DIAMIDE;  
 DIAMINE; DIANHYDRIDE; DIESTER; DIPHENOL; IODINE COMPOUND; LITHIUM  
 CHLORIDE; METHYL PYRROLIDINONE; ORGANOMETALLIC COMPOUND; PALLADIUM  
 COMPOUND; PHENYLENE DIAMINE; PHOSPHOROUS COMPOUND; PHOSPHORUS COMPOUND;  
 PYRIDINE; PYRIDINIUM SALT; TEREPHTHALOYL CHLORIDE; TRIMETHYLSILYL  
 CHLORIDE; TRIPHENYL PHOSPHITE; TRIPHENYLPHOSPHITE

SHR CONDENSATION POLYMERISATION, amide polymers, aramid polymers, polymerisation catalysts, etherimide polymers, imide polymers; AMIDE POLYMERS, condensation polymerisation, polymerisation catalysts; ARAMID POLYMERS, condensation polymerisation, polymerisation catalysts; POLYMERISATION CATALYSTS, condensation polymerisation, amide polymers, aramid polymers; IMIDE POLYMERS, condensation polymerisation; ETHERIMIDE POLYMERS, condensation polymerisation

GT EUROPEAN COMMUNITY; EUROPEAN UNION; SPAIN; WESTERN EUROPE

L81 ANSWER 38 OF 40 COMPENDEX COPYRIGHT 2008 EEI on STN

AN 2007(40):7429 COMPENDEX Full-text

TI Oxidative coupling polymerization of phenol derivatives catalyzed with copper-amine complexes immobilized within mesoporous interiors.

AU Shibasaki, Yuji (Department of Organic and Polymeric Materials Graduate School of Science and Engineering Tokyo Institute of Technology, Meguro-ku, Tokyo 152-8552, Japan)

SO Kobunshi Ronbunshu v 64 n 8 August 2007 2007.p 475-485  
ISSN: 0386-2186

PY 2007

DT Journal

TC Experimental

LA Japanese

AB A mesoporous silica, SBA-15, was modified with a diamine having a silan-coupling group, followed by the coordination of CuCl for the oxidative coupling polymerization of phenol derivatives. The prepared catalyst was characterized by XRD, N<sub>2</sub> absorption-desorption analysis, elemental analysis, and ICP analysis; the copper ion was found to be dispersed homogeneously inside the channel. The mesoporous-supported copper-amine catalyst (SBA-15-Cu) was then applied to the polymerization of 2,6-dimethylphenol in order to investigate the ability of the catalyst. The corresponding poly (2,6-dimethyl-1,4-phenylene ether) was obtained in good yield with the number average molecular weight of 19000, which was lower than the conventional homogeneous catalyst. The durability of the SBA-15-Cu catalyst was proved for at least five repetitions the polymerization. The catalyst was then applied to the 2,5-dimethylphenol and o-cresol polymerization, where the coupling selectivity was further improved compared to the conventional homogeneous catalyst, indicating the usefulness of the mesoporous supported catalyst. The properties of the resulting polymers were also discussed. 34 Refs.

AN 2007(40):7429 COMPENDEX Full-text

CC 544.1 Copper; 802.2 Chemical Reactions; 804.1 Organic Compounds; 804.2 Inorganic Compounds; 815.2 Polymerization

CT \*Phenols; Catalysis; Catalyst selectivity; Copper; Oxidation; Polymerization; Silica; Amines

ST Oxidative coupling polymerization; Mesoporous silica

ET Cl\*Cu; CuCl; Cu cp; cp; Cl cp; N; Cu

L81 ANSWER 39 OF 40 JAPIO (C) 2008 JPO on STN

AN 1999-228584 JAPIO Full-text

TI PRODUCTION OF AMINOALKOXYSILANE

IN IGAI SHIGERU; YANO TAKEFUMI

PA UBE IND LTD

PI JP 11228584 A 19990824 Heisei

AI JP 1998-31632 (JP10031632 Heisei) 19980213

PRAI JP 1998-31632 19980213

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999

AB PROBLEM TO BE SOLVED: To produce the subject compound useful as a polymerization catalyst component, etc., in high yield by reacting magnesium with a halogenated hydrocarbon and a secondary amine, producing a magnesium amide compound and then reacting the resultant magnesium amide compound with an alkoxysilane.



SOLUTION: Magnesium is reacted with a halogenated hydrocarbon (e.g. n-butyl chloride) and a secondary amine (e.g. perhydroisoquinoline) in a solvent such as tetrahydrofuran to produce a magnesium amide compound in the first step. The resultant magnesium amide compound is then reacted with an alkoxysilane (e.g. tetramethoxysilane) under heating in the second step to thereby afford the objective aminoalkoxysilane compound, especially a di(polycyclic amino) dialkoxysilane [e.g. di(perhydroisoquinolyl) dimethoxysilane] in high yield according to a simple process. The resultant compound as a polymerization catalyst component is capable of producing a polymer having high stereoregularity in polymerization of an  $\alpha$ -olefin. COPYRIGHT: (C)1999,JPO

IC ICM C07F007-18

L81 ANSWER 40 OF 40 JAPIO (C) 2008 JPO on STN

AN 1991-100003 JAPIO Full-text

TI PREPARATION OF CONJUGATED DIENE POLYMER

IN KATSUMATA HIDEO; TAKASHIMA AKIO; HATTORI IWAKAZU

PA JAPAN SYNTHETIC RUBBER CO LTD

PI JP 03100003 A 19910425 Heisei

AI JP 1989-235742 (JP01235742 Heisei) 19890913

PRAI JP 1989-235742 19890913

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1991

AB PURPOSE: To prepare a high-mol.-weight conjugated diene polymer having a high trans-1,4 bond content and a low vinyl bond content easily at a high polymerization reactivity by polymerizing a monomer mainly comprising a conjugated diene in the presence of a specific catalyst compsn. CONSTITUTION: A conjugated diene polymer is prepared by polymerizing a monomer mainly comprising a conjugated diene in an inert organic solvent in the presence of a catalyst compsn. containing a Ba compound, an organoaluminum compound, an organolithium compound, an amine of formula I (wherein R<sup>1</sup> and R<sup>2</sup> are each 1-20C alkyl, 6-20C aryl, or 3-20C alkylsilyl), a diamine of formula II (wherein R<sup>3</sup> to R<sup>6</sup> are each the same as R<sup>1</sup> and R<sup>2</sup>; and R<sup>7</sup> is 1-20C arylene) and/or an organoaluminum alkoxide compound of formula III (wherein r<sup>8</sup> is 1-20C aryl or an oxygen- and/or nitrogen-containing hydrocarbon residue; R<sup>9</sup> is 1-20C alkyl or 6-20C aryl; and (n) is 1-3). Thus the conjugated diene polymer, excellent in the abrasion resistance and mechanical properties (especially high-temperature tensile strength) and having a high trans-1,4 bond content, a low 1,2- or 3,4-vinyl bond content, is obtd. at a high polymerization reactivity. COPYRIGHT: (C)1991,JPO&Japio

IC ICM C08F004-54

ICS C08F036-04

=&gt; d que nos 144

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L1      1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  US2007-599651/APPS
L3      TRANSFER  PLU=ON  L1 1-  RN :      31 TERMS
L4      31 SEA FILE=REGISTRY ABB=ON  PLU=ON  L3
L7      STR
L9      44315 SEA FILE=REGISTRY SSS FUL L7
L10     QUE  ABB=ON  PLU=ON  SUZUKI, E?/AU
L11     QUE  ABB=ON  PLU=ON  OZAWA, Y?/AU
L12     QUE  ABB=ON  PLU=ON  (BRIDGESTONE  OR (BRIDGE(1W)STONE))/
      CS, SO, PA
L13     QUE  ABB=ON  PLU=ON  ?POLYMERI? OR COPOLYMER?
L14     QUE  ABB=ON  PLU=ON  ?CATALY?
L15     QUE  ABB=ON  PLU=ON  INITIAT? OR START?
L16     QUE  ABB=ON  PLU=ON  "POLYMERIZATION CATALYSTS"+PFT, OLD, N
      EW, NT/CT
L17     19109 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9
L18     974 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND L16
L19     630 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 (L) (L13(L) (L14 OR L15))
L21     QUE  ABB=ON  PLU=ON  ?DIENE? ?DIENYL OR ?BUTADIEN?
L22     QUE  ABB=ON  PLU=ON  ?STYREN?
L23     1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND PMS/CI
L24     48629 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23
L25     6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND (L18 OR L19)
L26     27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L17
L27     27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L25 OR L26)
L28     26 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L27 AND ((L13 OR L14 OR L15
      OR L16) OR (L21 OR L22))
L29     27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L27 OR L28)
L30     3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 AND (L10 OR L11 OR L12)
L31     0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND L30
L32     4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L30 OR L31) OR L1
L37     QUE  ABB=ON  PLU=ON  ?SILAN? OR ?SILYL?
L38     QUE  ABB=ON  PLU=ON  DIAMIN? OR (DI(1W) (AMINE OR AMINO))
L39     QUE  ABB=ON  PLU=ON  AMINES+PFT, OLD, NEW/CT (L) L38
L40     71 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 (L) L37
L41     5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L40 AND (L16 OR (L13(5A) (L14
      OR L15)))
L42     1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L41 AND (L10 OR L11 OR L12)
L43     1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L42 AND L1
L44     4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 OR L32

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=&gt; d que nos 155

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L10     QUE  ABB=ON  PLU=ON  SUZUKI, E?/AU
L11     QUE  ABB=ON  PLU=ON  OZAWA, Y?/AU
L12     QUE  ABB=ON  PLU=ON  (BRIDGESTONE  OR (BRIDGE(1W)STONE))/
      CS, SO, PA
L48     STR
L50     SCR 1967 OR 1936
L52     1306 SEA FILE=CASREACT SSS FUL (L50 AND L48) ( 10185 REACTIONS)
L55     2 SEA FILE=CASREACT ABB=ON  PLU=ON  L52 AND (L10 OR L11 OR L12)

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=&gt; d que 169

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L2      1 SEA FILE=WPIX ABB=ON  PLU=ON  US2007-599651/APPS
L10     QUE  ABB=ON  PLU=ON  SUZUKI, E?/AU
L11     QUE  ABB=ON  PLU=ON  OZAWA, Y?/AU
L12     QUE  ABB=ON  PLU=ON  (BRIDGESTONE  OR (BRIDGE(1W)STONE))/

```

10/599,651

CS, SO, PA  
L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L21 QUE ABB=ON PLU=ON ?DIENE? ?DIENYL OR ?BUTADIEN?  
L22 QUE ABB=ON PLU=ON ?STYREN?  
L37 QUE ABB=ON PLU=ON ?SILAN? OR ?SILYL?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W) (AMINE OR AMINO))  
L57 QUE ABB=ON PLU=ON C08F0036-04/IPC  
L58 QUE ABB=ON PLU=ON C08F0004-08/IPC  
L59 QUE ABB=ON PLU=ON C08F0004-10/IPC  
L61 230 SEA FILE=WPIX ABB=ON PLU=ON (F09/PLE (S) SI/PLE) (P)C293/PLE  
L62 6 SEA FILE=WPIX ABB=ON PLU=ON L61 AND L57  
L63 2 SEA FILE=WPIX ABB=ON PLU=ON L61 AND (L58 OR L59)  
L64 6 SEA FILE=WPIX ABB=ON PLU=ON (L62 OR L63)  
L65 6 SEA FILE=WPIX ABB=ON PLU=ON L64 AND ((L13 OR L14 OR L15) OR  
(L21 OR L22) OR (L37 OR L38))  
L66 6 SEA FILE=WPIX ABB=ON PLU=ON (L64 OR L65)  
L67 2 SEA FILE=WPIX ABB=ON PLU=ON L66 AND (L10 OR L11 OR L12)  
L68 1 SEA FILE=WPIX ABB=ON PLU=ON L2 AND L67  
L69 2 SEA FILE=WPIX ABB=ON PLU=ON (L67 OR L68)

=> d his 174

(FILE 'ANTE, EMA, APOLLIT, RAPRA, INSPEC, COMPENDEX, MEDLINE, BIOSIS,  
EMBASE, PASCAL, SCISEARCH, CONFSCI, DISSABS, RDISCLOSURE' ENTERED AT  
14:45:25 ON 24 OCT 2008)

L74 0 S L73 AND L10-L12

=> d que 174

L10 QUE ABB=ON PLU=ON SUZUKI, E?/AU  
L11 QUE ABB=ON PLU=ON OZAWA, Y?/AU  
L12 QUE ABB=ON PLU=ON (BRIDGESTONE OR (BRIDGE(1W)STONE))/  
CS, SO, PA  
L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L37 QUE ABB=ON PLU=ON ?SILAN? OR ?SILYL?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W) (AMINE OR AMINO))  
L71 829 SEA L38(5A) L37  
L72 153786 SEA L13 (5A) (L14 OR L15)  
L73 2 SEA L71 (15A) L72  
L74 0 SEA L73 AND (L10 OR L11 OR L12)

=> dup rem 144 155 169 174

L74 HAS NO ANSWERS

DUPLICATE IS NOT AVAILABLE IN 'RDISCLOSURE'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

FILE 'HCAPLUS' ENTERED AT 15:06:17 ON 24 OCT 2008

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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FILE 'CASREACT' ENTERED AT 15:06:17 ON 24 OCT 2008

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FILE 'WPIX' ENTERED AT 15:06:17 ON 24 OCT 2008

10/599,651

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PROCESSING COMPLETED FOR L44  
PROCESSING COMPLETED FOR L55  
PROCESSING COMPLETED FOR L69  
PROCESSING COMPLETED FOR L74  
L82           7 DUP REM L44 L55 L69 L74 (1 DUPLICATE REMOVED)  
              ANSWERS '1-4' FROM FILE HCAPLUS  
              ANSWERS '5-6' FROM FILE CASREACT  
              ANSWER '7' FROM FILE WPIX

=> file stnguide  
FILE 'STNGUIDE' ENTERED AT 15:06:32 ON 24 OCT 2008  
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FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Oct 17, 2008 (20081017/UP).

=> d ibib ed abs hitind hitstr 1-4

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX' - CONTINUE? (Y)/N:y

L82 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2005:1130679 HCAPLUS Full-text

DOCUMENT NUMBER: 143:406961

TITLE: Modified conjugated diene polymers having low heat buildup property, polymerization initiators therefor, their manufacture and rubber compositions

INVENTOR(S): Suzuki, Eiju; Ozawa, Yoichi

PATENT ASSIGNEE(S): Bridgestone Corporation, Japan

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005097845	A1	20051020	WO 2005-JP4810	20050317
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1734060	A1	20061220	EP 2005-720997	20050317
R:	DE, FR, IT			
CN 1961011	A	20070509	CN 2005-80017367	20050317
BR 2005009641	A	20070918	BR 2005-9641	20050317
US 20080033110	A1	20080207	US 2007-599651	20070713 <--
PRIORITY APPLN. INFO.:			JP 2004-111231	A 20040405
			WO 2005-JP4810	W 20050317

OTHER SOURCE(S): MARPAT 143:406961

ED Entered STN: 21 Oct 2005

AB Title conjugated diene (CD) homopolymers or the CD-aromatic vinyl compound (AV) copolymers are characterized as R1Y1NQNR2(Poly)Z1 [R1, R2 = C1-20 alkyl, aryl, (substituted) silyl, or H; Q = active H-free and heterocyclic atom-containing C1-12 alkylene or arylene; Y1 = (substituted) silyl or H with part of R2, Q, and Y capable to form ring; Poly = the CD homopolymer or CD-AV copolymer component; Z1 = alkali or alkaline earth metal or residue from reaction with reactive carbanion compound or H]. Polymerizing butadiene and styrene in cyclohexane solution in the presence of an initiator from dimethyl-1,6-hexanediamine, BuLi, and Me3SiCl at 50° for 2.5 h and adding BHT gave a polymer showing number-average mol. weight 1.74 + 105, polydispersity 1.20, and 100° Mooney viscosity 22, 80 parts of which was kneaded with natural rubber 20, carbon black 50, and S 1.5 parts and vulcanized at 160° for 15 min to form a vulcanizate with tanδ index 69 under 15 Hz, 50° and 3% strain; vs.,

87, for a vulcanizate prepared similarly from a SBR prepared in presence of hexamethylene diamine, ditetrahydrofurylpropane, and BuLi.

- IC ICM C08F036-04  
ICS C08F004-06; C08F008-00; C08L015-00
- CC 39-4 (Synthetic Elastomers and Natural Rubber)
- ST org alkali metal diamine silane reaction product polymn  
initiator; alk earth compd diamine silane reaction product  
polymn initiator; conjugated diene polymn  
initiator silyldiamine reaction product butyl lithium; low heat  
buildup conjugated diene rubber polymn initiator
- IT Organometallic compounds  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkali metal compds., polymerization initiator from;  
manufacture of conjugated diene polymers in presence of  
diamine/silane/organic  
alkali or alkaline metal reaction products for vulcanizates with low heat  
buildup)
- IT Amines, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(diamines, polymerization initiator from; manufacture  
of conjugated diene polymers in presence of diamine/  
silane/organic alkali or alkaline metal reaction products for  
vulcanizates with low heat buildup)
- IT Polymerization catalysts  
(manufacture of conjugated diene polymers in presence of  
diamine/silane/organic  
alkali or alkaline metal reaction products for vulcanizates with low heat  
buildup)
- IT Alkali metal compounds  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organometallic compds., polymerization initiator from;  
manufacture of conjugated diene polymers in presence of  
diamine/silane/organic  
alkali or alkaline metal reaction products for vulcanizates with low heat  
buildup)
- IT Alkaline earth compounds  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(organometallic, polymerization initiator from; manufacture of  
conjugated diene polymers in presence of diamine/silane/organic alkali or  
alkaline metal reaction products for vulcanizates with low heat buildup)
- IT Silanes  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymerization initiator from; manufacture of conjugated diene  
polymers in presence of diamine/silane/organic alkali or alkaline metal  
reaction products for vulcanizates with low heat buildup)
- IT 75-77-4, Trimethylsilyl chloride, reactions 109-72-8, Butyllithium,  
reactions 13093-04-4, N,N'-Dimethyl-1,6-diaminohexane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymerization initiator from; manufacture of conjugated diene  
polymers in presence of diamine/silane/organic alkali or alkaline metal  
reaction products for vulcanizates with low heat buildup)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:1302916 HCAPLUS Full-text

DOCUMENT NUMBER: 147:522738

TITLE: Preparation of rare earth metallocene complex for  
diene and olefin polymerization  
catalyst

INVENTOR(S): Kaita, Shojiro; Tardif, Olivier  
 PATENT ASSIGNEE(S): Riken Corp., Japan; Bridgestone Corporation;  
 JSR Corporation  
 SOURCE: PCT Int. Appl., 53pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

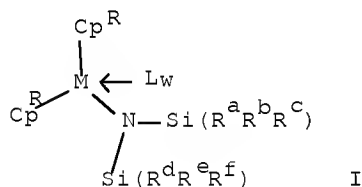
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007129670	A1	20071115	WO 2007-JP59389	20070502
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: JP 2006-130550 A 20060509

OTHER SOURCE(S): MARPAT 147:522738

ED Entered STN: 15 Nov 2007

GI



AB The metallocene is represented by a structure I, wherein M=lanthanoid, scandium, or yttrium; CpR = unsubstituted or substituted indenyl; Ra-Rf = H, or C1-3 alkyl group; L = neutral Lewis base; and w = 0-3 integer. Thus, 0.791 g GdCl<sub>3</sub> in THF was added dropwise with 0.757 g indenyl lithium in THF, heated at 65° for 14 h, added dropwise with 0.519 g KN(SiMe<sub>3</sub>)<sub>2</sub> in toluene, stirred at room temperature for 16 h to give 0.519 g (C<sub>9</sub>H<sub>7</sub>)<sub>2</sub>GdN(SiMe<sub>3</sub>)<sub>2</sub>, 0.03 mmol of which was combined with 0.15 mmol triisobutyl aluminum and 0.03 mmol N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate to polymerize 1,3-butadiene in toluene at 20° for 15 min to give polybutadiene (93% yield) having cis- content 98.9%, Mn=120,000, and Mw/Mn=1.26.

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 67

ST rare earth metallocene diene olefin polymn catalyst

IT Aluminoxanes

RL: CAT (Catalyst use); USES (Uses)

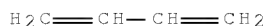
- (Me; preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT Polymerization catalysts  
(metallocene; preparation of rare earth metallocene complex for diene and  
olefin polymerization catalyst)
- IT Rare earth complexes  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);  
USES (Uses)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 100-99-2, Triisobutyl aluminum, uses  
RL: CAT (Catalyst use); USES (Uses)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 4505-48-0P, 2-Phenyl indene 956597-37-8P 956597-38-9P 956597-48-1P  
956597-60-7P 956597-65-2P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);  
USES (Uses)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 956597-40-3P 956597-41-4P  
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent); USES (Uses)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 118612-00-3, N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate  
136040-19-2, Triphenylcarbonium tetrakis(pentafluorophenyl) borate  
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES  
(Uses)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 9002-88-4P, Polyethylene 9003-17-2P, 1,3-Butadiene polymer  
9003-55-8P, 1,3-Butadiene-styrene  
copolymer 28325-75-9P 956597-39-0P 956597-42-5P  
956597-43-6P 956597-44-7P 956597-45-8P 956597-46-9P 956597-47-0P  
956597-49-2P 956597-51-6P 956597-53-8P 956597-56-1P 956597-64-1P  
956597-66-3P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 956597-58-3P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 2177-47-1, 2-Methyl indene 3661-63-0, 1-Methyl-2-phenyl indene  
10138-52-0, Gadolinium chloride 15933-59-2, Tetramethyldisilazane  
20669-47-0, Indenyl lithium 40949-94-8 53860-54-1 65090-77-9, Sodium  
isopropylcyclopentadienide 152153-72-5,  
Tris(trimethylsilyl)silylpotassium 928851-93-8 956597-62-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- IT 9003-55-8P, 1,3-Butadiene-styrene  
copolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)
- RN 9003-55-8 HCAPLUS
- CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)



CM 1

CRN 106-99-0

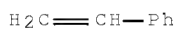
CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8

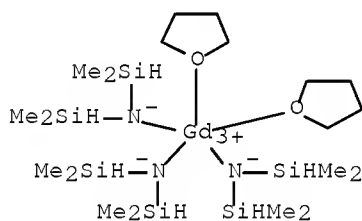
IT 956597-58-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)

RN 956597-58-3 HCAPLUS

CN Gadolinium, tris[N-(dimethylsilyl)-1,1-dimethylsilanaminato]bis(tetrahydrofuran)-, (TB-5-11)- (CA INDEX NAME)

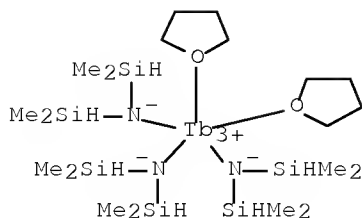
IT 956597-62-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of rare earth metallocene complex for diene and olefin  
polymerization catalyst)

RN 956597-62-9 HCAPLUS

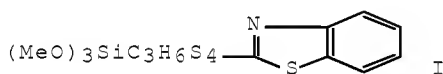
CN Terbium, tris[N-(dimethylsilyl)-1,1-dimethylsilanaminato]bis(tetrahydrofuran)- (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L82 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1993:519294 HCAPLUS Full-text  
 DOCUMENT NUMBER: 119:119294  
 ORIGINAL REFERENCE NO.: 119:21453a,21456a  
 TITLE: Rubber compositions  
 INVENTOR(S): Sato, Kazuhide; Ohashi, Masayuki  
 PATENT ASSIGNEE(S): Bridgestone Corp, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

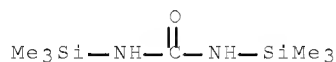
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05051484	A	19930302	JP 1991-236832	19910826
JP 3103153	B2	20001023		
PRIORITY APPLN. INFO.:			JP 1991-236832	19910826
OTHER SOURCE(S):	MARPAT 119:119294			
ED Entered STN: 18 Sep 1993				
GI				



AB Title compns., abrasion-resistant with low heat generation and useful for tires, hoses, and belts, comprise natural rubber and/or diene rubber 100, carbon black 10-60, and silica 5-50 parts and 1-15% (based on silica) silane coupling agents and 2-45% (based on silica) silylating agents selected from Me3SiNHSiMe3, MeC(OSiMe3):NSiMe3, (Me3SiNH)2CO, and tert-BuSiMe2Cl. Alternatively, the compns. comprise 25-35 parts silica and silane coupling agents selected from [(RO)3SiCnH2n]2Sm, (RO)3SiCnH2nX (R = Me, Et; X = SH, NH2; m = 1-6; n = 1-8), (MeO)3SiC3H6S4C(:S)NMe2, and I. Thus, a composition of JSR 1500 65, natural rubber 35, HAF carbon black 15, Nipsil AQ 30, Si 69 3, Me3SiNHSiMe3 9, ZnO 3, aromatic oil 5, N-phenyl-N'-isopropyl-p-phenylenediamine 1, N-oxydiethylene-2-benzothiazolyisulfenamide 1.5, and S 1.5 parts showed abrasion resistance index [= (abrasion loss of

reference)/(abrasion loss of specimen) + 100] 101 by Lambourn abrasion tester and  $\tan \delta$  (as measure of heat generation) 85 vs. 100 and 100 for a reference containing 45 parts carbon black in place of the silica and free of Si 69 and Me<sub>3</sub>SiNHSiMe<sub>3</sub>.

- IC ICM C08L007-00  
ICS C08K003-04; C08K003-36; C08K005-54; C08L009-00  
CC 39-13 (Synthetic Elastomers and Natural Rubber)  
IT Rubber, butadiene-styrene, uses  
RL: USES (Uses)  
(blends with natural rubber, containing carbon black and silica and silane coupling agents and silylating agents, abrasion-resistant, with low heat generation)  
IT 999-97-3 4420-74-0 7631-86-9, Silica, uses 10416-59-8 18162-48-6  
18297-63-7 40372-72-3, Si 69 113946-60-4 119388-54-4  
RL: USES (Uses)  
(natural rubber-SBR blends containing, abrasion-resistant, with low heat generation, for tires)  
IT 9003-55-8  
RL: USES (Uses)  
(rubber, blends with natural rubber, containing carbon black and silica and silane coupling agents and silylating agents, abrasion-resistant, with low heat generation)  
IT 18297-63-7  
RL: USES (Uses)  
(natural rubber-SBR blends containing, abrasion-resistant, with low heat generation, for tires)  
RN 18297-63-7 HCAPLUS  
CN Urea, N,N'-bis(trimethylsilyl)- (CA INDEX NAME)

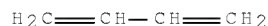


- IT 9003-55-8  
RL: USES (Uses)  
(rubber, blends with natural rubber, containing carbon black and silica and silane coupling agents and silylating agents, abrasion-resistant, with low heat generation)  
RN 9003-55-8 HCAPLUS  
CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)

CM 1

CRN 106-99-0

CMF C4 H6



CM 2

CRN 100-42-5

CMF C8 H8

 $\text{H}_2\text{C}=\text{CH}-\text{Ph}$ 

L82 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1988:168981 HCAPLUS Full-text

DOCUMENT NUMBER: 108:168981

ORIGINAL REFERENCE NO.: 108:27783a,27786a

TITLE: Rubber compositions containing imidazol(in)es and  
Broensted acids

INVENTOR(S): Hirata, Yasushi; Hatakeyama, Kazuya; Kondo, Hitoshi

PATENT ASSIGNEE(S): Bridgestone Corp., Japan

SOURCE: Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 251760	A2	19880107	EP 1987-305773	19870630
EP 251760	A3	19880601		
EP 251760	B1	19940126		
R: DE, FR, GB				
JP 63010645	A	19880118	JP 1986-152613	19860701
JP 07086155	B	19950920		
JP 63068647	A	19880328	JP 1986-210777	19860909
JP 63139931	A	19880611	JP 1986-286771	19861203
JP 07064955	B	19950712		
US 5140055	A	19920818	US 1991-727395	19910705
PRIORITY APPLN. INFO.:			JP 1986-152613	A 19860701
			JP 1986-210777	A 19860909
			JP 1986-286771	A 19861203
			JP 1986-39088	A1 19860226
			US 1987-66439	B1 19870626
			US 1988-229775	B1 19880805

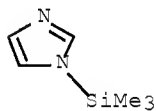
OTHER SOURCE(S): MARPAT 108:168981

ED Entered STN: 13 May 1988

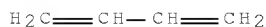
AB A rubber composition, useful for vibration dampers and tire treads, having high mech.  $\tan \delta$  at high temperature, comprises natural and/or synthetic rubber and 0.1-50 phr of a (benz)imidazol(in)e derivative. The use of 0.1-50 phr Broensted acid in addition improves the poor scorch resistance of the rubber composition containing these compds. alone, and enhances the grip of the tire tread at high speeds. SBR 100, aromatic oil 37.5, ISAF carbon black 65, and ZnO 3 parts were compounded with 0.01 mol 2-phenyl-4-methylimidazole (I) and appropriate amts. of 1,3-diphenylguanidine, 2-mercaptobenzothiazole, and S and vulcanized to give a vulcanizate showing  $\tan \delta$  at 80° under 1% dynamic strain 0.238, compared with 0.173 for a similar vulcanizate without I. Addition of 0.01 mol p-toluenesulfonic acid (II) to a similar rubber composition containing 0.01 mol 1-stearyl-2-undecylimidazole gave a composition showing Mooney scorch time at 130° (JIS K 6300) 15.1 min, compared with 6.6 min for a similar composition without II.

IC ICM C08K005-34

ICS B60C001-00; C08L021-00  
 CC 39-9 (Synthetic Elastomers and Natural Rubber)  
 IT Rubber, butadiene-styrene, uses and miscellaneous  
 RL: USES (Uses)  
 (compounding of, with (benz)imidazole derivs., for improved mech. loss  
 at elevated temperature)  
 IT 51-17-2, Benzimidazole 60-56-0 94-52-0 104-98-3 443-48-1  
 570-22-9 582-60-5 615-15-6 670-96-2 693-98-1 716-79-0 822-36-6  
 827-43-0 931-36-2 936-49-2 1137-68-4 2034-22-2 2232-08-8  
 2466-76-4 3584-66-5 4414-88-4 4857-04-9 5418-95-1 5805-76-5  
 10041-02-8 13682-32-1 13750-62-4 16731-68-3 18156-74-6  
 21054-72-8 23328-87-2 23996-12-5 23996-16-9 23996-55-6  
 24370-25-0 31430-18-9 38668-46-1 49556-76-5 50729-75-4  
 50729-78-7 61698-32-6 63592-54-1 68083-35-2 85598-94-3  
 113946-81-9 114136-96-8 114136-97-9 114136-98-0 114137-01-8  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (rubber compns. containing, for improved mech. loss at elevated  
 temperature)  
 IT 9003-55-8  
 RL: USES (Uses)  
 (rubber, compounding of, with (benz)imidazole derivs., for improved  
 mech. loss at elevated temperature)  
 IT 18156-74-6  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (rubber compns. containing, for improved mech. loss at elevated  
 temperature)  
 RN 18156-74-6 HCAPLUS  
 CN 1H-Imidazole, 1-(trimethylsilyl)- (CA INDEX NAME)

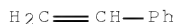


IT 9003-55-8  
 RL: USES (Uses)  
 (rubber, compounding of, with (benz)imidazole derivs., for improved  
 mech. loss at elevated temperature)  
 RN 9003-55-8 HCAPLUS  
 CN Benzene, ethenyl-, polymer with 1,3-butadiene (CA INDEX NAME)  
 CM 1  
 CRN 106-99-0  
 CMF C4 H6



CM 2

CRN 100-42-5  
CMF C8 H8



=> d ibib ab hit 5-6

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX' - CONTINUE? (Y)/N:y

L82 ANSWER 5 OF 7 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 139:396027 CASREACT Full-text

TITLE: Facile Isomerization of a Tungsten Silyl Complex to a Base-Stabilized Silylene Complex via 1,2-Migration of an Aryl Group

AUTHOR(S): Okazaki, Masaaki; Suzuki, Eiji; Miyajima, Norito; Tobita, Hiromi; Ogino, Hiroshi

CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Tohoku University, Sendai, 980-8578, Japan

SOURCE: Organometallics (2003), 22(23), 4633-4635  
CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

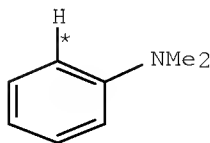
LANGUAGE: English

AB Irradiation of  $\text{Cp}^*(\text{CO})_3\text{WMe}$  in the presence of N,N-dimethyl-2-(dimethylsilyl)aniline led to the intermediate formation of  $\text{Cp}^*(\text{CO})_2\text{W}\{\kappa^2(\text{Si},\text{N})\text{-Me}_2\text{N}(\text{o-C}_6\text{H}_4\text{SiMe}_2)\}$  (3), which was converted to the base-stabilized silylene complex  $\text{Cp}^*(\text{CO})_2\text{W}\{\kappa^2(\text{Si},\text{C})\text{-SiMe}_2\text{NMe}_2(\text{o-C}_6\text{H}_4)\}$  (2) through 1,2-migration of the aryl group.

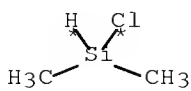
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(3) OF 3 COMPOSED OF RX(1), RX(2)

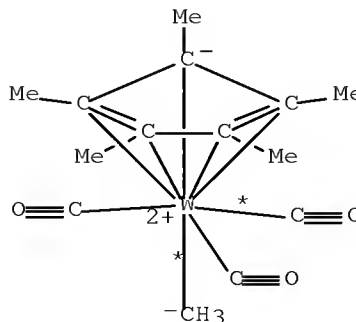
RX(3) A + B + G ==> H



A

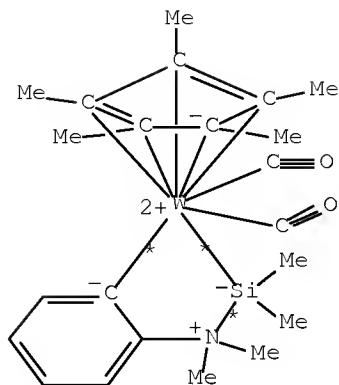


B



G

2  
STEPS  
→



H  
YIELD 76%

RX(1) RCT A 121-69-7

STAGE(1)

RGT D 109-72-8 BuLi  
SOL 110-54-3 Hexane  
CON SUBSTAGE(1) room temperature  
SUBSTAGE(2) 20 hours, 90 deg C  
SUBSTAGE(3) 90 deg C -> room temperature

STAGE(2)

RCT B 1066-35-9  
SOL 110-54-3 Hexane  
CON SUBSTAGE(1) 0 deg C  
SUBSTAGE(2) 1 hour, room temperature

STAGE(3)

RGT E 7732-18-5 Water

PRO C 626255-16-1

RX(2) RCT C 626255-16-1, G 34807-90-4

PRO H 626255-17-2

SOL 108-88-3 PhMe

CON SUBSTAGE(1) 70 minutes, 5 deg C  
SUBSTAGE(2) 3 hours, room temperature

NTE photochem.

AU Okazaki, Masaaki; Suzuki, Eiji; Miyajima, Norito; Tobita, Hiromi; Ogino, Hiroshi

L82 ANSWER 6 OF 7 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 127:81311 CASREACT Full-text

TITLE: Asymmetric synthesis of (R)-nilvadipine and (S)-NB 818  
via regioselective bromination of chiral  
1,4-dihydropyridines as a key step and enzymic  
resolution of racemic

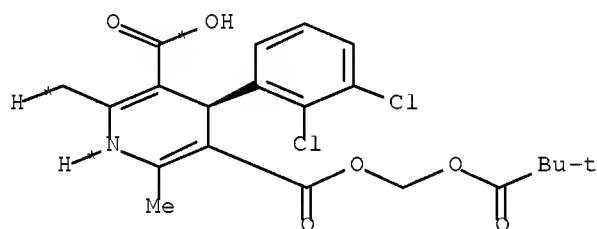
2-hydroxymethyl-1,4-dihydropyridine derivatives  
 AUTHOR(S): Ebiike, Hirosato; Maruyama, Kaori; Ozawa, Yumi  
 ; Yamazaki, Yukiyo; Achiwa, Kazuo  
 CORPORATE SOURCE: School of Pharmaceutical Sciences, University of  
 Shizuoka, Shizuoka, 422, Japan  
 SOURCE: Chemical & Pharmaceutical Bulletin (1997), 45(5),  
 869-876  
 CODEN: CPBTAL; ISSN: 0009-2363  
 PUBLISHER: Pharmaceutical Society of Japan  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Optically active 2-hydroxymethyl-1,4-dihydropyridines, e.g., I, were obtained by lipase-catalyzed hydrolysis or transesterification of racemic materials. Chiral NB 818 and nilvadipine have been synthesized from chiral 2-hydroxymethyl-1,4-dihydropyridine. On the other hand, chiral 1,4-dihydropyridines obtained from prochiral substrates have been converted into (S)-NB 818 and (R)-nilvadipine via regioselective bromination of Me groups under mild conditions.

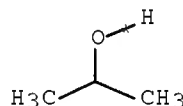
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(54) OF 64 COMPOSED OF RX(15), RX(16), RX(17), RX(18)

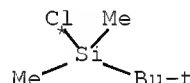
RX(54) AP + B + 2 AX ==> AY



AP



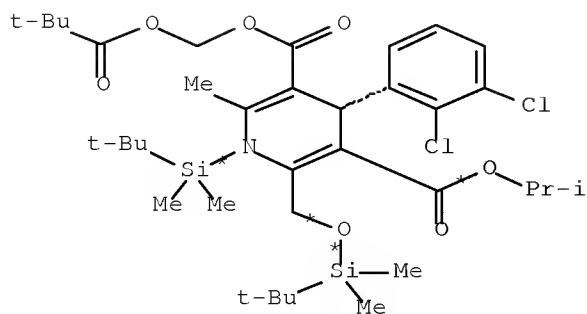
B



2 AX

4  
STEPS  
→





AY  
YIELD 95%

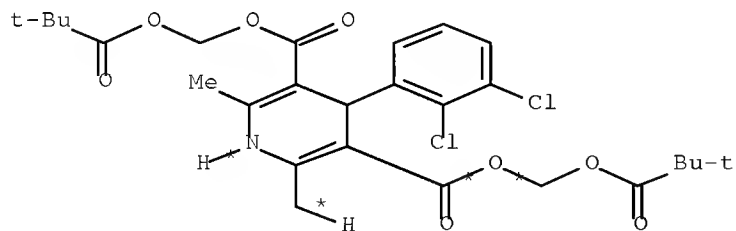
RX(15) RCT AP 164263-08-5, B 67-63-0  
 RGT AS 1122-58-3 4-DMAP, AT 598-30-1 s-BuLi  
 PRO AR 174840-07-4  
 SOL 67-63-0 Me2CHOH

RX(16) RCT AR 174840-07-4  
 RGT AG 39416-48-3 Pyridinium tribromide  
 PRO AU 174840-08-5  
 SOL 75-09-2 CH2Cl2

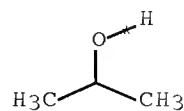
RX(17) RCT AU 174840-08-5  
 RGT AW 7761-88-8 AgNO3  
 PRO AV 174840-09-6  
 SOL 67-64-1 Me2CO, 7732-18-5 Water

RX(18) RCT AV 174840-09-6, AX 18162-48-6  
 RGT AZ 288-32-4 1H-Imidazole  
 PRO AY 174840-10-9  
 SOL 68-12-2 DMF

RX(64) OF 64 COMPOSED OF RX(14), RX(15), RX(16), RX(17), RX(18)  
 RX(64) AO + B + 2 AX ==> AY

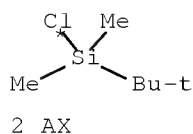


AO

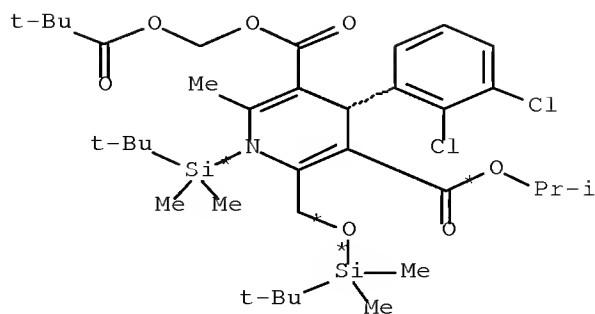


B

10/599,651



5  
STEPS  
→



AY  
YIELD 95%

RX(14) RCT AO 164263-05-2  
 RGT AB 9001-62-1 Lipase  
 PRO AP 164263-08-5  
 SOL 7732-18-5 Water, 110-82-7 Cyclohexane  
 NTE biotransformation, enzymic  
  
 RX(15) RCT AP 164263-08-5, B 67-63-0  
 RGT AS 1122-58-3 4-DMAP, AT 598-30-1 s-BuLi  
 PRO AR 174840-07-4  
 SOL 67-63-0 Me2CHOH  
  
 RX(16) RCT AR 174840-07-4  
 RGT AG 39416-48-3 Pyridinium tribromide  
 PRO AU 174840-08-5  
 SOL 75-09-2 CH2Cl2  
  
 RX(17) RCT AU 174840-08-5  
 RGT AW 7761-88-8 AgNO3  
 PRO AV 174840-09-6  
 SOL 67-64-1 Me2CO, 7732-18-5 Water  
  
 RX(18) RCT AV 174840-09-6, AX 18162-48-6  
 RGT AZ 288-32-4 1H-Imidazole  
 PRO AY 174840-10-9  
 SOL 68-12-2 DMF  
 AU Ebiike, Hirosato; Maruyama, Kaori; Ozawa, Yumi; Yamazaki,  
 Yukiyo; Achiwa, Kazuo

=> d iall abeq tech abex 7

YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, WPIX' - CONTINUE? (Y)/N:y

L82 ANSWER 7 OF 7 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN  
 ACCESSION NUMBER: 2001-482882 [52] WPIX  
 DOC. NO. CPI: C2001-144630 [52]  
 TITLE: Preparation of a functionalized polymer useful in the  
 manufacture of tire components involves preparing a  
 pseudo-living polymer by polymerizing  
 conjugated diene monomer

10/599,651

DERWENT CLASS: A12; A95; E19; Q11  
 INVENTOR: MASAKI K; MILLER H; MILLER H J; MILLER J; OZAWA Y  
 PATENT ASSIGNEE: (BRID-C) BRIDGESTONE CORP; (MASA-I) MASAKI K;  
 (MILL-I) MILLER H J; (OZAW-I) OZAWA Y  
 COUNTRY COUNT: 22

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2001034659	A1	20010517	(200152)*	EN	32	[0]
EP 1237935	A1	20020911	(200267)	EN		
JP 2003514079	W	20030415	(200328)	JA	41	
US 6977281	B1	20051220	(200601)	EN		
US 20060025539	A1	20060202	(200610)	EN		
EP 1237935	B1	20070124	(200710)	EN		
DE 60033179	E	20070315	(200726)	DE		
ES 2281362	T3	20071001	(200768)	ES		
DE 60033179	T2	20071115	(200777)	DE		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001034659	A1	WO 2000-US30875	20001110
US 6977281	B1 Provisional	US 1999-165169P	19991112
US 20060025539	A1 Provisional	US 1999-165169P	19991112
DE 60033179	E	DE 2000-633179	20001110
EP 1237935	A1	EP 2000-977129	20001110
EP 1237935	B1	EP 2000-977129	20001110
DE 60033179	E	EP 2000-977129	20001110
ES 2281362	T3	EP 2000-977129	20001110
EP 1237935	A1	WO 2000-US30875	20001110
JP 2003514079	W	WO 2000-US30875	20001110
US 6977281	B1	WO 2000-US30875	20001110
US 20060025539	A1 Cont of	WO 2000-US30875	20001110
EP 1237935	B1	WO 2000-US30875	20001110
DE 60033179	E	WO 2000-US30875	20001110
JP 2003514079	W	JP 2001-537370	20001110
US 6977281	B1	US 2003-296082	20030813
US 20060025539	A1 Cont of	US 2003-296082	20030813
US 20060025539	A1	US 2005-243874	20051005
DE 60033179	T2	DE 2000-633179	20001110
DE 60033179	T2	EP 2000-977129	20001110
DE 60033179	T2	WO 2000-US30875	20001110

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 60033179	E Based on	EP 1237935 A
ES 2281362	T3 Based on	EP 1237935 A
US 20060025539	A1 Cont of	US 6977281 B
EP 1237935	A1 Based on	WO 2001034659 A
JP 2003514079	W Based on	WO 2001034659 A
US 6977281	B1 Based on	WO 2001034659 A
EP 1237935	B1 Based on	WO 2001034659 A
DE 60033179	E Based on	WO 2001034659 A
DE 60033179	T2 Based on	EP 1237935 A
DE 60033179	T2 Based on	WO 2001034659 A

PRIORITY APPLN. INFO: US 1999-165169P 19991112  
 WO 2000-US30875 20001110  
 US 2003-296082 20030813  
 US 2005-243874 20051005

## INT. PATENT CLASSIF.:

MAIN: C08C019-22; C08F008-30  
 IPC ORIGINAL: C08C0019-00 [I,C]; C08C0019-00 [I,C]; C08C0019-22 [I,A];  
 C08C0019-44 [I,A]; C08C0019-44 [I,A]; C08F0136-00 [I,C];  
 C08F0136-00 [I,C]; C08F0136-04 [I,A]; C08F0136-04 [I,A];  
 C08F0008-00 [I,C]; C08F0008-30 [I,A]; C08L0019-00 [I,A];  
 C08L0019-00 [I,A]; C08L0019-00 [I,C]; C08L0019-00 [I,C]  
 IPC RECLASSIF.: B60C0001-00 [I,A]; B60C0001-00 [I,C]; C08C0019-00 [I,C];  
 C08C0019-44 [I,A]; C08F0136-00 [I,C]; C08F0136-04 [I,A];  
 C08F0036-00 [I,C]; ~~C08F0036-04~~ [I,A];  
 C08F0004-00 [I,C]; C08F0004-54 [I,A]; C08F0004-60 [I,A];  
 C08F0008-00 [I,C]; C08F0008-30 [I,A]; C08K0003-00 [I,C];  
 C08K0003-36 [I,A]; C08L0015-00 [I,A]; C08L0015-00 [I,C];  
 C08L0019-00 [I,A]; C08L0019-00 [I,C]

ECLA: C08C0019-44; C08F0136-04+4/54D; C08L0019-00D

USCLASS NCLM: 525/377.000

NCLS: 525/105.000; 525/342.000; 525/383.000

## BASIC ABSTRACT:

WO 2001034659 A1 UPAB: 20071024

NOVELTY - A method for preparing a functionalized polymer involves:

(a) preparing a pseudo-living polymer by polymerizing conjugated diene monomer with a lanthanide-based catalyst; and

(b) reacting the pseudo-living polymer with at least one functionalizing agent.

DETAILED DESCRIPTION - A method for preparing a functionalized polymer involves:

(a) preparing a pseudo-living polymer by polymerizing conjugated diene monomer with a lanthanide-based catalyst; and

(b) reacting the pseudo-living polymer with at least one functionalizing agent of formula (I) or (II).

Z = a substituent that will react or interact with organic or inorganic fillers;

R1 = a single bond or a divalent organic group;

R2 = a monovalent organic group or a divalent organic group that forms a cyclic organic group with R3 or R4;

R3 = a single bond, a divalent organic group, or a trivalent organic group that forms a cyclic organic group with R2, R4 or R5;

R4 = a monovalent organic group or a divalent organic group that forms a cyclic organic group with R2, R3 or R5; and

R5 = a monovalent organic group or a divalent organic group that forms a cyclic organic group with R2, R3 or R4

with the proviso that each group attached to the imino carbon is attached via a carbon atom and R1, R2, R3, R4, R5 and Z are substituents that will not protonate a pseudo-living polymer

An INDEPENDENT CLAIM is also included for a rubber component comprising:

(a) functionalized polymer; and

(b) a reinforcing filler.

USE - The functionalized polymers are useful in the manufacture of tire components, including tire treads (claimed), side walls, sub treads, and bead fillers.

ADVANTAGE - The functionalized polymers have improved cold flow resistance.

MANUAL CODE: CPI: A02-A06; A04-B01A; A04-B01D; A10-E; A12-T01; E05-E;  
 E05-P; E07-D03; E07-D09C; E07-D11; E10-A20B; E31-P03;

E34-E

TECH

POLYMERS - Preferred Polymer: The pseudo-living polymer includes more than 85 wt.% polymeric units in the cis-microstructure and less than 3 wt.% polymeric units in the 1,2- or 3,4-microstructure. The polymer has a molecular weight distribution of less than 4 and is preferably poly(butadiene).

ORGANIC CHEMISTRY - Preferred Functionalizing Agent: Z is a silane group, an N,N-disubstituted aminophenyl group an imine group or a cyclic amino group. The functionalizing agent is present in amount 0.01-200 moles per mole of lanthanide-based catalyst.

INORGANIC CHEMISTRY - Preferred Filler: The inorganic filler comprises silica.

ABEX SPECIFIC COMPOUNDS - The functionalizing agent comprises N-(3-triethoxysilylpropyl)-4,5-dihydroimidazole, N-(1,3-dimethylbutylidene)-3-triethoxysilyl-1-propanamine, oligomers or mixtures thereof, dimethylaminobenzylidene ethylamine, diethylaminobenzylidene butylamine, dimethylaminobenzylidene aniline, dimethylaminobenzylidene n-butylaniline, dimethylaminobenzylidene dodecylaniline, dimethylaminobenzylidene methoxyaniline, dimethylaminobenzylidene dimethylaminoaniline; bis(dimethyl aminophenyl) methylidene butylamine, bis(dimethylaminophenyl) methylidene n-octylamine, bis(diethylaminophenyl) methylidene butylamine, bis(diethylaminophenyl)methylidene n-octylamine, benzylidene dimethylaminoaniline, methoxybenzylidene dimethylaminoaniline, 1-methyl-4-pentene-2-yl-methylidene dimethylaniline, 1,3-dimethylbutylidene dimethylaniline, phenylene bis(dimethylaminobenzylidene amine), benzylidene (1-hexamethylenimino)aniline, benzylidene (1-pyrrolidino)aniline, dimethylaminobenzylidene (1-hexamethylenimino) aniline, dimethylaminobenzylidene (1-pyrrolidino)aniline, (1-hexamethylenimino)benzylidene aniline, (1-pyrrolidino)benzylidene aniline, benzylidene ((4-n-butyl-1-piperazino)methyl)aniline, benzylidene ((3-(1-methyl)pyrrolidino)methyl)aniline, ((4-n-butyl-1-piperazino)methyl)benzylidene aniline or ((3-(1-methyl)pyrrolidino)methyl)benzylidene aniline.

=> file stnguide

FILE 'STNGUIDE' ENTERED AT 15:08:27 ON 24 OCT 2008

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Oct 17, 2008 (20081017/UP).

=> d his ful

(FILE 'HOME' ENTERED AT 12:07:30 ON 24 OCT 2008)

FILE 'STNGUIDE' ENTERED AT 12:07:33 ON 24 OCT 2008

FILE 'ZCAPLUS' ENTERED AT 12:07:42 ON 24 OCT 2008  
E US2007-599651/APPS

L1 FILE 'HCAPLUS' ENTERED AT 12:07:59 ON 24 OCT 2008  
1 SEA ABB=ON PLU=ON US2007-599651/APPS  
D SCAN

FILE 'STNGUIDE' ENTERED AT 12:08:08 ON 24 OCT 2008

L2 FILE 'WPIX' ENTERED AT 12:08:17 ON 24 OCT 2008  
1 SEA ABB=ON PLU=ON US2007-599651/APPS

FILE 'STNGUIDE' ENTERED AT 12:08:25 ON 24 OCT 2008  
D QUE STAT L1

FILE 'HCAPLUS' ENTERED AT 12:08:56 ON 24 OCT 2008  
D IBIB ED ABS IND L1

FILE 'STNGUIDE' ENTERED AT 12:08:56 ON 24 OCT 2008  
D QUE L2

FILE 'WPIX' ENTERED AT 12:09:33 ON 24 OCT 2008  
D IALL CODE L2

FILE 'STNGUIDE' ENTERED AT 12:09:37 ON 24 OCT 2008

FILE 'REGISTRY' ENTERED AT 12:10:28 ON 24 OCT 2008

L3 FILE 'HCAPLUS' ENTERED AT 12:10:32 ON 24 OCT 2008  
TRA PLU=ON L1 1- RN : 31 TERMS

L4 FILE 'REGISTRY' ENTERED AT 12:10:35 ON 24 OCT 2008  
31 SEA ABB=ON PLU=ON L3  
D SCAN

FILE 'STNGUIDE' ENTERED AT 12:11:01 ON 24 OCT 2008

FILE 'REGISTRY' ENTERED AT 12:18:23 ON 24 OCT 2008

L5 FILE 'LREGISTRY' ENTERED AT 12:18:25 ON 24 OCT 2008  
STR

L6 FILE 'REGISTRY' ENTERED AT 12:18:44 ON 24 OCT 2008  
50 SEA SSS SAM L5  
D QUE STAT

L7 FILE 'LREGISTRY' ENTERED AT 12:20:53 ON 24 OCT 2008  
STR L5

L8 FILE 'REGISTRY' ENTERED AT 12:22:39 ON 24 OCT 2008  
50 SEA SSS SAM L7  
D QUE STAT

L9 44315 SEA SSS FUL L7

10/599,651

SAVE TEMP L9 HUH651PSET1/A

FILE 'STNGUIDE' ENTERED AT 12:25:23 ON 24 OCT 2008

FILE 'ZCAPLUS' ENTERED AT 12:26:30 ON 24 OCT 2008

L10 QUE ABB=ON PLU=ON SUZUKI, E?/AU  
L11 QUE ABB=ON PLU=ON OZAWA, Y?/AU  
L12 QUE ABB=ON PLU=ON (BRIDGESTONE OR (BRIDGE (1W) STONE)) /CS, SO, P  
A  
L13 QUE ABB=ON PLU=ON ?POLYMERI? OR COPOLYMER?  
L14 QUE ABB=ON PLU=ON ?CATALY?  
L15 QUE ABB=ON PLU=ON INITIAT? OR START?  
L\*\*\* DEL QUE "POLYMERIZATION CATALYSTS"+PFT, OLD, NEW/CT  
E POLYMERIZATION CATALYSTS/CT  
E E15+ALL  
L16 QUE ABB=ON PLU=ON "POLYMERIZATION CATALYSTS"+PFT, OLD, NEW, NT/C  
T

FILE 'HCAPLUS' ENTERED AT 12:29:54 ON 24 OCT 2008

L17 19109 SEA ABB=ON PLU=ON L9  
L18 974 SEA ABB=ON PLU=ON L17 AND L16  
L19 630 SEA ABB=ON PLU=ON L17 (L) (L13 (L) (L14 OR L15))  
L20 585 SEA ABB=ON PLU=ON L18 AND L19

FILE 'STNGUIDE' ENTERED AT 12:30:48 ON 24 OCT 2008

FILE 'ZCAPLUS' ENTERED AT 12:31:33 ON 24 OCT 2008

L21 QUE ABB=ON PLU=ON ?DIENE? ?DIENYL OR ?BUTADIEN?  
L22 QUE ABB=ON PLU=ON ?STYREN?

FILE 'REGISTRY' ENTERED AT 12:32:17 ON 24 OCT 2008

L23 1 SEA ABB=ON PLU=ON L4 AND PMS/CI  
D SCAN

FILE 'STNGUIDE' ENTERED AT 12:32:49 ON 24 OCT 2008

D QUE

FILE 'REGISTRY' ENTERED AT 12:33:05 ON 24 OCT 2008

D IDE L23

FILE 'STNGUIDE' ENTERED AT 12:33:05 ON 24 OCT 2008

FILE 'HCAPLUS' ENTERED AT 12:33:18 ON 24 OCT 2008

L24 48629 SEA ABB=ON PLU=ON L23  
L25 6 SEA ABB=ON PLU=ON L24 AND (L18 OR L19)  
L26 27 SEA ABB=ON PLU=ON L24 AND L17  
L27 27 SEA ABB=ON PLU=ON (L25 OR L26)  
L28 26 SEA ABB=ON PLU=ON L27 AND ((L13 OR L14 OR L15 OR L16) OR  
(L21 OR L22))  
L29 27 SEA ABB=ON PLU=ON (L27 OR L28)  
L30 3 SEA ABB=ON PLU=ON L29 AND (L10 OR L11 OR L12)  
L31 0 SEA ABB=ON PLU=ON L1 AND L30  
L32 4 SEA ABB=ON PLU=ON (L30 OR L31) OR L1  
L33 24 SEA ABB=ON PLU=ON L29 NOT L32

FILE 'REGISTRY' ENTERED AT 12:36:42 ON 24 OCT 2008

FILE 'HCAPLUS' ENTERED AT 12:36:49 ON 24 OCT 2008

L34 TRA PLU=ON L33 1- RN : 396 TERMS

10/599,651

FILE 'REGISTRY' ENTERED AT 12:36:54 ON 24 OCT 2008

L35 396 SEA ABB=ON PLU=ON L34  
L36 53 SEA ABB=ON PLU=ON L35 AND L9  
D SCAN

FILE 'STNGUIDE' ENTERED AT 12:40:00 ON 24 OCT 2008

FILE 'ZCAPLUS' ENTERED AT 12:43:52 ON 24 OCT 2008

L37 QUE ABB=ON PLU=ON ?SILAN? OR ?SILYL?  
L38 QUE ABB=ON PLU=ON DIAMIN? OR (DI(1W)(AMINE OR AMINO))  
E DIAMINES/CT  
E E88+ALL  
L39 QUE ABB=ON PLU=ON AMINES+PFT,OLD,NEW/CT (L) L38

FILE 'HCAPLUS' ENTERED AT 12:46:41 ON 24 OCT 2008

L40 71 SEA ABB=ON PLU=ON L39 (L)L37  
L41 5 SEA ABB=ON PLU=ON L40 AND (L16 OR (L13(5A)(L14 OR L15)))  
L42 1 SEA ABB=ON PLU=ON L41 AND (L10 OR L11 OR L12)  
L43 1 SEA ABB=ON PLU=ON L42 AND L1  
L\*\*\* DEL 131 S L43 OR O32  
L44 4 SEA ABB=ON PLU=ON L43 OR L32  
L45 4 SEA ABB=ON PLU=ON L41 NOT L44  
D SCAN TI HIT  
L46 28 SEA ABB=ON PLU=ON L45 OR L33  
L47 28 SEA ABB=ON PLU=ON L46 NOT L44

FILE 'STNGUIDE' ENTERED AT 12:49:07 ON 24 OCT 2008

FILE 'LREGISTRY' ENTERED AT 12:49:39 ON 24 OCT 2008

L48 STR

FILE 'CASREACT' ENTERED AT 12:54:01 ON 24 OCT 2008

L49 50 SEA SSS SAM L48 ( 357 REACTIONS)  
D QUE STAT

FILE 'STNGUIDE' ENTERED AT 12:56:42 ON 24 OCT 2008

FILE 'CASREACT' ENTERED AT 13:01:41 ON 24 OCT 2008

L50 SCREEN 1967 OR 1936  
L51 50 SEA SSS SAM (L50 AND L48) ( 341 REACTIONS)

FILE 'STNGUIDE' ENTERED AT 13:03:02 ON 24 OCT 2008

D QUE STAT

FILE 'CASREACT' ENTERED AT 13:05:34 ON 24 OCT 2008

L52 1306 SEA SSS FUL (L50 AND L48) ( 10185 REACTIONS)  
SAVE TEMP L52 HUH651CRXP/A  
L53 58 SEA ABB=ON PLU=ON L52 AND L38  
D QUE L13  
L54 4 SEA ABB=ON PLU=ON L53 AND (L13(5A)(L14 OR L15))  
D SCAN  
L55 2 SEA ABB=ON PLU=ON L52 AND (L10 OR L11 OR L12)  
L56 4 SEA ABB=ON PLU=ON L54 NOT L55  
SAVE TEMP L56 HUH651CRXB/A

FILE 'STNGUIDE' ENTERED AT 13:10:31 ON 24 OCT 2008

D SAVED

FILE 'STNGUIDE' ENTERED AT 13:31:58 ON 24 OCT 2008



10/599,651

FILE 'ZCAPLUS' ENTERED AT 13:32:03 ON 24 OCT 2008

L57           QUE ABB=ON   PLU=ON   C08F0036-04/IPC  
L58           QUE ABB=ON   PLU=ON   C08F0004-08/IPC  
L59           QUE ABB=ON   PLU=ON   C08F0004-10/IPC

FILE 'WPIX' ENTERED AT 13:33:01 ON 24 OCT 2008

L60           QUE ABB=ON   PLU=ON   (F09/PLE (S) SI/PLE) (P)C293/PLE  
L61           230 SEA ABB=ON   PLU=ON   (F09/PLE (S) SI/PLE) (P)C293/PLE  
              D KWIX  
L62           6 SEA ABB=ON   PLU=ON   L61 AND L57  
L63           2 SEA ABB=ON   PLU=ON   L61 AND (L58 OR L59)  
L64           6 SEA ABB=ON   PLU=ON   (L62 OR L63)  
L65           6 SEA ABB=ON   PLU=ON   L64 AND ((L13 OR L14 OR L15) OR (L21 OR  
              L22) OR (L37 OR L38))  
L66           6 SEA ABB=ON   PLU=ON   (L64 OR L65)  
L67           2 SEA ABB=ON   PLU=ON   L66 AND (L10 OR L11 OR L12)  
L68           1 SEA ABB=ON   PLU=ON   L2 AND L67  
L69           2 SEA ABB=ON   PLU=ON   (L67 OR L68)  
L70           4 SEA ABB=ON   PLU=ON   L66 NOT L69  
              D TRI 1-4  
              D KWIC 3-4

FILE 'STNGUIDE' ENTERED AT 13:37:44 ON 24 OCT 2008

FILE 'STNGUIDE' ENTERED AT 14:39:24 ON 24 OCT 2008

FILE 'EMA' ENTERED AT 14:44:19 ON 24 OCT 2008

FILE 'ANTE' ENTERED AT 14:44:37 ON 24 OCT 2008

FILE 'STNGUIDE' ENTERED AT 14:44:49 ON 24 OCT 2008

FILE 'ANTE, EMA, APOLLIT, RAPRA, INSPEC, COMPENDEX, MEDLINE, BIOSIS,  
EMBASE, PASCAL, SCISEARCH, CONFSCI, DISSABS, RDISCLOSURE' ENTERED AT  
14:45:25 ON 24 OCT 2008

              D QUE L38  
L71           829 SEA ABB=ON   PLU=ON   L38(5A) L37  
              D KWIC  
L72           153786 SEA ABB=ON   PLU=ON   L13 (5A) (L14 OR L15)  
L73           2 SEA ABB=ON   PLU=ON   L71 (15A) L72  
              D SCAN  
              D TRI  
L74           0 SEA ABB=ON   PLU=ON   L73 AND (L10 OR L11 OR L12)  
L75           2 SEA ABB=ON   PLU=ON   L73 NOT L74

FILE 'STNGUIDE' ENTERED AT 14:51:27 ON 24 OCT 2008

FILE 'JAPIO' ENTERED AT 14:51:33 ON 24 OCT 2008

L76           78 SEA ABB=ON   PLU=ON   L38(5A)L37  
L77           1 SEA ABB=ON   PLU=ON   L76 AND L57  
              D SCAN  
L78           31301 SEA ABB=ON   PLU=ON   L13 (5A) (L14 OR L15)  
L79           1 SEA ABB=ON   PLU=ON   L76 (20A)L78  
L80           2 SEA ABB=ON   PLU=ON   L77 OR L79  
              D BIB 1-2

FILE 'STNGUIDE' ENTERED AT 14:53:20 ON 24 OCT 2008

              D QUE STAT L9  
              D QUE L23  
              D QUE NOS L47

10/599,651

D QUE STAT L52  
D QUE NOS L56  
D QUE L70  
D QUE L75  
D QUE L80

FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' ENTERED AT  
14:56:16 ON 24 OCT 2008

L81 40 DUP REM L47 L56 L70 L75 L80 (0 DUPLICATES REMOVED)  
ANSWERS '1-28' FROM FILE HCAPLUS  
ANSWERS '29-32' FROM FILE CASREACT  
ANSWERS '33-36' FROM FILE WPIX  
ANSWER '37' FROM FILE RAPRA  
ANSWER '38' FROM FILE COMPENDEX  
ANSWERS '39-40' FROM FILE JAPIO  
SAVE TEMP L81 HUH651MAIN/A

FILE 'STNGUIDE' ENTERED AT 14:56:35 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' ENTERED AT  
14:57:05 ON 24 OCT 2008

D IBIB ED ABS HITIND HITSTR 1-10

FILE 'STNGUIDE' ENTERED AT 14:57:12 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' ENTERED AT  
14:59:08 ON 24 OCT 2008

D IBIB ED ABS HITIND HITSTR 11-28

FILE 'STNGUIDE' ENTERED AT 14:59:21 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' ENTERED AT  
15:01:37 ON 24 OCT 2008

D IBIB AB HIT 29-32

FILE 'STNGUIDE' ENTERED AT 15:02:10 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' ENTERED AT  
15:03:28 ON 24 OCT 2008

D IALL ABEQ TECH ABEX 33-36

FILE 'STNGUIDE' ENTERED AT 15:03:35 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX, RAPRA, COMPENDEX, JAPIO' ENTERED AT  
15:04:44 ON 24 OCT 2008

D BIB AB IND 37-40

FILE 'STNGUIDE' ENTERED AT 15:04:45 ON 24 OCT 2008

FILE 'STNGUIDE' ENTERED AT 15:05:35 ON 24 OCT 2008

D QUE NOS L44  
D QUE NOS L55  
D QUE L69  
D QUE L74

FILE 'HCAPLUS, CASREACT, WPIX' ENTERED AT 15:06:17 ON 24 OCT 2008

L82 7 DUP REM L44 L55 L69 L74 (1 DUPLICATE REMOVED)  
ANSWERS '1-4' FROM FILE HCAPLUS  
ANSWERS '5-6' FROM FILE CASREACT  
ANSWER '7' FROM FILE WPIX

10/599,651

SAVE TEMP L82 HUH651INV/A

FILE 'STNGUIDE' ENTERED AT 15:06:32 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX' ENTERED AT 15:07:10 ON 24 OCT 2008  
D IBIB ED ABS HITIND HITSTR 1-4

FILE 'STNGUIDE' ENTERED AT 15:07:12 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX' ENTERED AT 15:07:38 ON 24 OCT 2008

FILE 'STNGUIDE' ENTERED AT 15:07:44 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX' ENTERED AT 15:07:53 ON 24 OCT 2008  
D IBIB AB HIT 5-6

FILE 'STNGUIDE' ENTERED AT 15:07:58 ON 24 OCT 2008

FILE 'HCAPLUS, CASREACT, WPIX' ENTERED AT 15:08:18 ON 24 OCT 2008  
D IALL ABEQ TECH ABEX 7

FILE 'STNGUIDE' ENTERED AT 15:08:21 ON 24 OCT 2008

FILE 'STNGUIDE' ENTERED AT 15:08:27 ON 24 OCT 2008

FILE HOME

FILE STNGUIDE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Oct 17, 2008 (20081017/UP).

FILE ZCAPLUS

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FILE COVERS 1907 - 24 Oct 2008 VOL 149 ISS 18

FILE LAST UPDATED: 23 Oct 2008 (20081023/ED)

ZCaplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE HCAPLUS

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FILE COVERS 1907 - 24 Oct 2008 VOL 149 ISS 18  
FILE LAST UPDATED: 23 Oct 2008 (20081023/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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#### FILE WPIX

FILE LAST UPDATED: 23 OCT 2008 <20081023/UP>  
MOST RECENT UPDATE: 200867 <200867/DW>  
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>>> Now containing more than 1.1 million chemical structures in DCR <<<

>>> IPC Reform backfile reclassifications have been loaded to end of September 2008. No update date (UP) has been created for the reclassified documents, but they can be identified by 20060101/UPIC, and 20061231/UPIC, 20070601/UPIC, 20071001/UPIC, 20071130/UPIC, 20080401/UPIC, 20080701/UPIC and 20081001/UPIC. ECLA reclassifications to mid August and US national classification mid September 2008 have also been loaded. Update dates 20080401, 20080701 and 20081001/UPEC and /UPNC have been assigned to these. <<

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PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf)

FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE  
<http://scientific.thomsonreuters.com/support/patents/coverage/latestupdate>

EXPLORE DERWENT WORLD PATENTS INDEX IN STN ANAVIST, VERSION 2.0:  
[http://www.stn-international.com/archive/presentations/DWPIAnaVist2\\_0608.p](http://www.stn-international.com/archive/presentations/DWPIAnaVist2_0608.p)

>>> HELP for European Patent Classifications see HELP ECLA, HELP ICO <<<

#### FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 OCT 2008 HIGHEST RN 1064721-02-3  
DICTIONARY FILE UPDATES: 22 OCT 2008 HIGHEST RN 1064721-02-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

FILE LREGISTRY

LREGISTRY IS A STATIC LEARNING FILE

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FILE CONTENT:1840 - 18 Oct 2008 VOL 149 ISS 17

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FILE EMA

FILE LAST UPDATED: 15 OCT 2008 <20081015/UP>

FILE COVERS 1986 TO DATE.

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>>> EMA will load additionally newly included old documents.
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      year (PY). E.G. => NOT PY<XXXX <<<
```

FILE ANTE

FILE LAST UPDATED: 15 OCT 2008 <20081015/UP>

FILE COVERS 1981 TO DATE

```
>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
      THE BASIC INDEX <<<
```

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      we recommend to modify your SDI by excluding them by publication
      year (PY). E.G. => NOT PY<XXXX <<<
```

FILE APOLLIT  
FILE LAST UPDATED: 22 DEC 2005 <20051222/UP>  
FILE COVERS 1973 TO 2005

THE APOLLIT FILE IS NO LONGER BEING UPDATED. \*\*\*\*\*  
\*\* USE FILE RAPRA FOR UP-TO-DATE POLYMER INFORMATION \*\*

FILE RAPRA  
FILE LAST UPDATED: 7 OCT 2008 <20081007/UP>  
FILE COVERS 1972 TO DATE

>>> Simultaneous left and right truncation is available in the  
basic index (/BI), and in the controlled term (/CT),  
geographical term (/GT), and non-polymer term (/NPT) fields. <<<

>>> The RAPRA Classification Code is available as a PDF file  
>>> and may be downloaded free-of-charge from:  
>>> [http://www.stn-international.de/stndatabases/details/rapra\\_classcodes](http://www.stn-international.de/stndatabases/details/rapra_classcodes).

FILE INSPEC  
FILE LAST UPDATED: 20 OCT 2008 <20081020/UP>  
FILE COVERS 1898 TO DATE.

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THE ABSTRACT (/AB), BASIC INDEX (/BI) AND TITLE (/TI) FIELDS >>>

FILE COMPENDEX  
FILE LAST UPDATED: 20 OCT 2008 <20081020/UP>  
FILE COVERS 1970 TO DATE.

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THE BASIC INDEX >>>

FILE MEDLINE  
FILE LAST UPDATED: 23 Oct 2008 (20081023/UP). FILE COVERS 1949 TO DATE.

MEDLINE has been updated with the National Library of Medicine's  
revised 2008 MeSH terms. See HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

See HELP RANGE before carrying out any RANGE search.

MEDLINE Accession Numbers (ANs) for records from 1950-1977 have  
been converted from 8 to 10 digits. Searches using an 8 or 10 digit  
AN will retrieve the same record. The 10-digit ANs can be expanded,  
searched, and displayed in all records from 1949 to the present.

FILE BIOSIS  
FILE COVERS 1926 TO DATE.  
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT  
FROM JANUARY 1926 TO DATE.

RECORDS LAST ADDED: 22 October 2008 (20081022/ED)

BIOSIS has been augmented with 1.8 million archival records from 1926  
through 1968. These records have been re-indexed to match current

BIOSIS indexing.

FILE EMBASE

FILE COVERS 1974 TO 23 Oct 2008 (20081023/ED)

EMBASE was reloaded on March 30, 2008.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

Beginning January 2008, Elsevier will no longer provide EMTREE codes as part of the EMTREE thesaurus in EMBASE. Please update your current-awareness alerts (SDIs) if they contain EMTREE codes.

For further assistance, please contact your local helpdesk.

FILE PASCAL

FILE LAST UPDATED: 20 OCT 2008 <20081020/UP>

FILE COVERS 1977 TO DATE.

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IN THE BASIC INDEX (/BI) FIELD <<<

FILE SCISEARCH

FILE COVERS 1974 TO 23 Oct 2008 (20081023/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE CONFSCI

FILE COVERS 1973 TO 15 Oct 2008 (20081015/ED)

CSA has resumed updates, see NEWS FILE

FILE DISSABS

FILE COVERS 1861 TO 25 SEP 2008 (20080925/ED)

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FILE RDISCLOSURE

FILE LAST UPDATED: 13 OCT 2008 <20081013/UP>

FILE COVERS 1960 TO DATE

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FILE JAPIO

10/599,651

FILE LAST UPDATED:	24 OCT 2008	<20081024/UP>
MOST RECENT PUBLICATION DATE:	26 JUN 2008	<20080626/PD>

>>> GRAPHIC IMAGES AVAILABLE <<<

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